TECHNOLOGY DEPT.

# Chilton's MOTOR AGE

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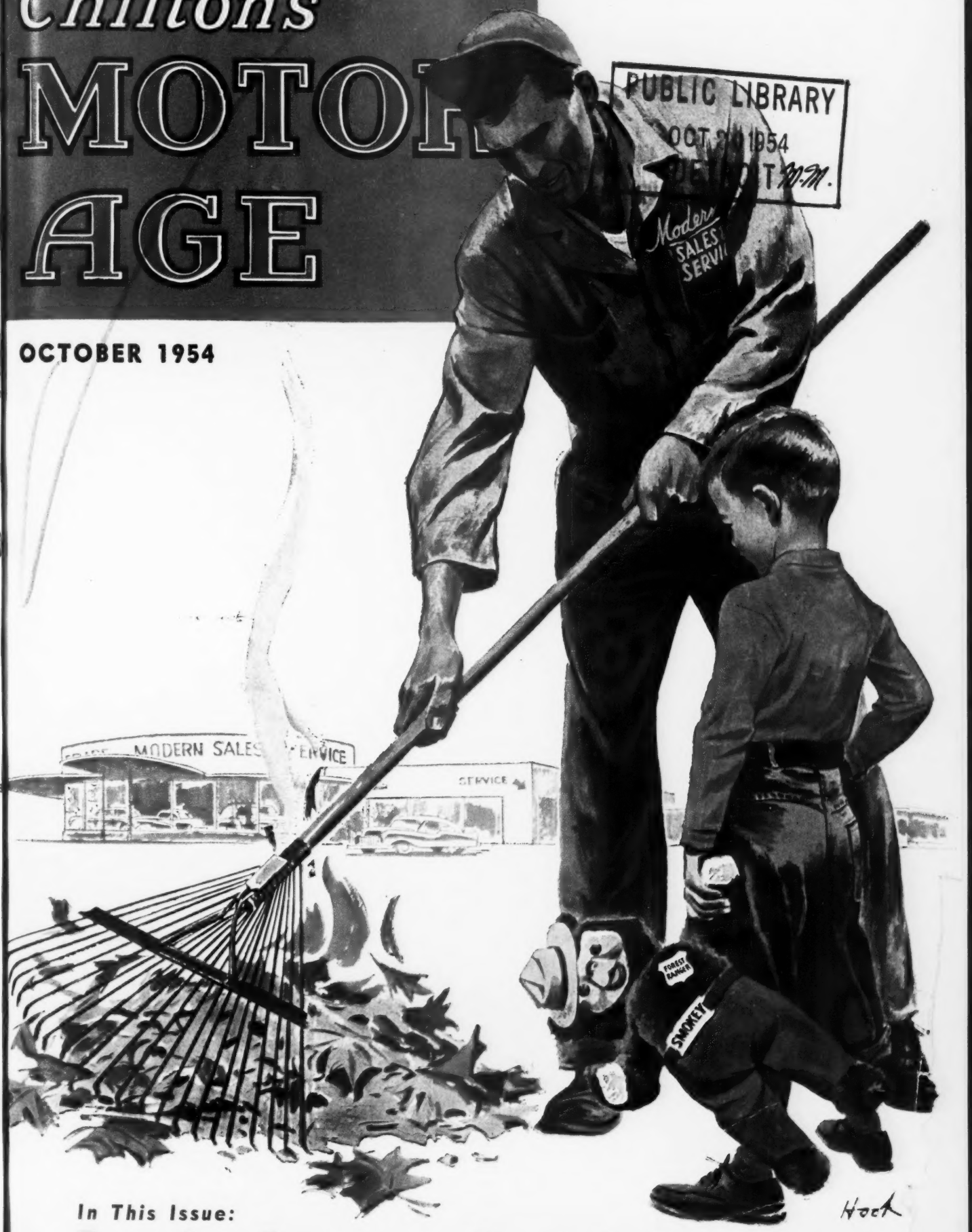
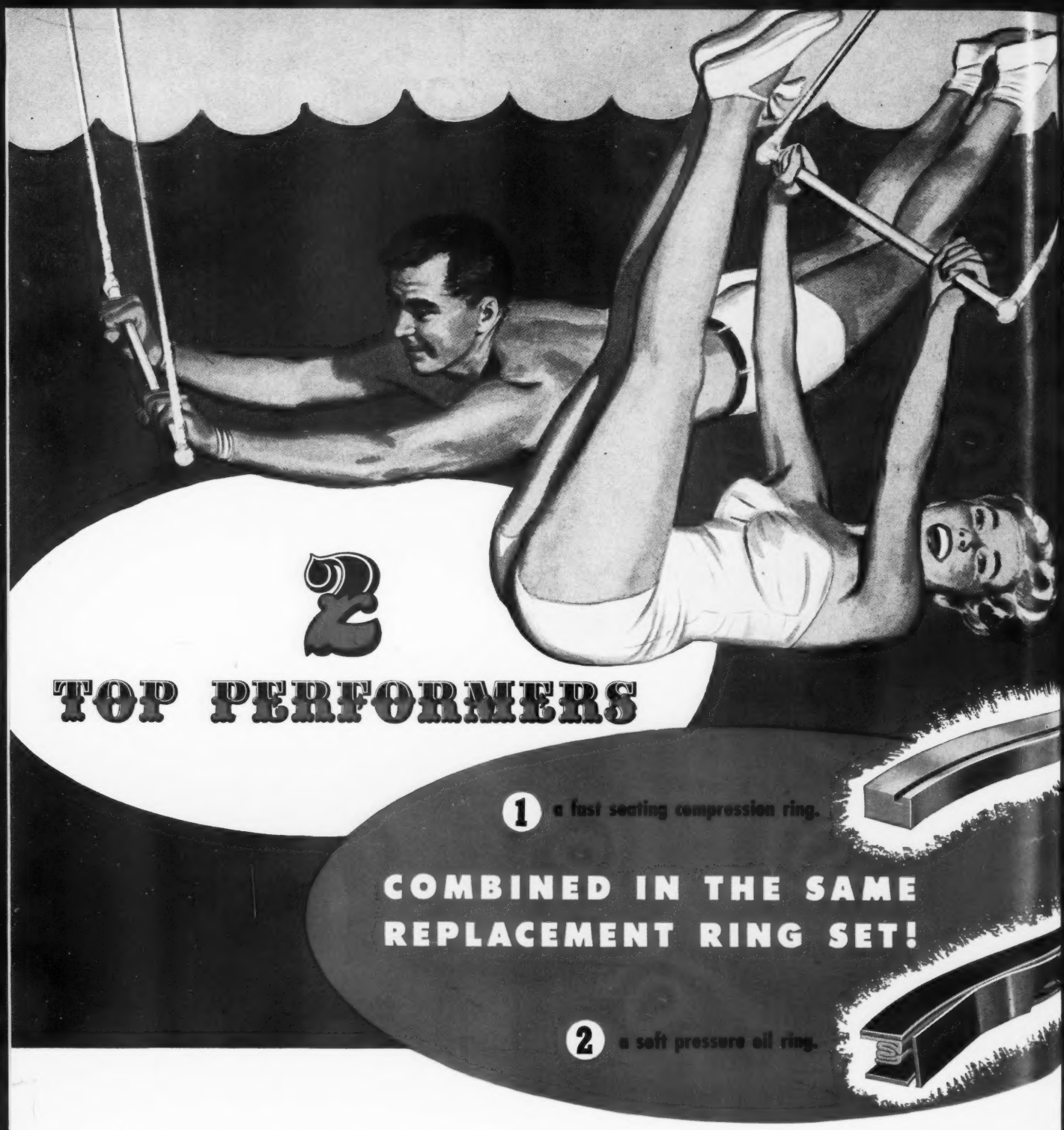



*In This Issue:*

## Everyday Service on Chrysler's Powerflite




**(1)** Here is a compression ring that seats *right now* . . . the Hastings torsional. Its high graphitic casting brings it into a fast seat and perfect wall bearing in any cylinder—tapered, out-of-round or re-bored.

**(2)** The Hastings Steel-Vent is an oil ring that stops oil-pumping immediately. It's a *soft pressure* ring with the light innerspring developed by Hastings. It delivers the extra lubrication that older engines must have—and with complete oil control and economy.

Here are two *top performers* in the same "Motor Engineered" set . . . built by replacement ring specialists.

You don't get come-backs due to cylinder scuffing and slow-seating when you install Hastings Steel-Vent sets. You get positive, quick performance that makes car owners happy.

**HASTINGS MANUFACTURING COMPANY, HASTINGS, MICHIGAN • HASTINGS LTD., TORONTO**

*Piston Rings, Casite, Oil Filters, Spark Plugs*

# HASTINGS

**STEEL-VENT PISTON RINGS**

*Regular or Chrome-Faced*

**Tough on oil-pumping • Gentle on cylinder walls**

JUST IN TIME FOR YOUR FALL SERVICE WORK!

# SPECIAL OFFERS ON 3 PERMATEX RADIATOR PRODUCTS

SPECIAL OFFER #252

## PERMATEX HEAVY DUTY RADIATOR CLEANER

Dissolves rust, scale and lime . . . fast! No neutralizer necessary. Harmless to rubber and metal parts.

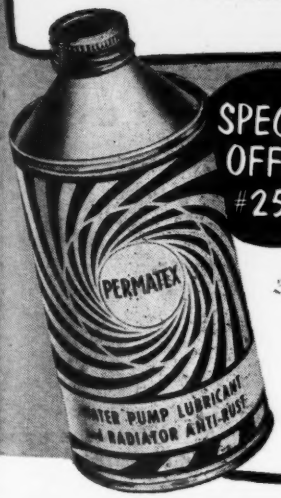
| | |
|---|---|
| 10 qts. Heavy Duty Radiator Cleaner @ $1.50 | $15.00 |
| 2 qts. | FREE |
| | $15.00 |
| Less 40% dealer discount | 6.00 |
| You pay only | $9.00 |

SPECIAL OFFER #253

## PERMATEX RADIATOR CEMENT (Liquid Sealer)

Prevents seepage of permanent-type anti-freeze and stops radiator leaks. Will not clog or interfere with water circulation.

| | |
|---|---|
| 30 ½ pts. Liquid Radiator Cement @ 65¢ | $19.50 |
| 6 ½ pts. | FREE |
| | $19.50 |
| Less 40% dealer discount | 7.80 |
| You pay only | $11.70 |




SPECIAL OFFER #254

## PERMATEX WATER PUMP LUBRICANT AND RADIATOR ANTI-RUST

Stops squeaks and grunts caused by wear. Prolongs the life of new or old water pumps. Contains Anti-Rust for extra protection throughout the entire cooling system.

| | |
|---|---|
| 20 12-oz. cans Water Pump Lubricant and Radiator Anti-Rust @ 85¢ | $17.00 |
| 4 12-oz. cans | FREE |
| | $17.00 |
| Less 40% dealer discount | 6.80 |
| You pay only | $10.20 |

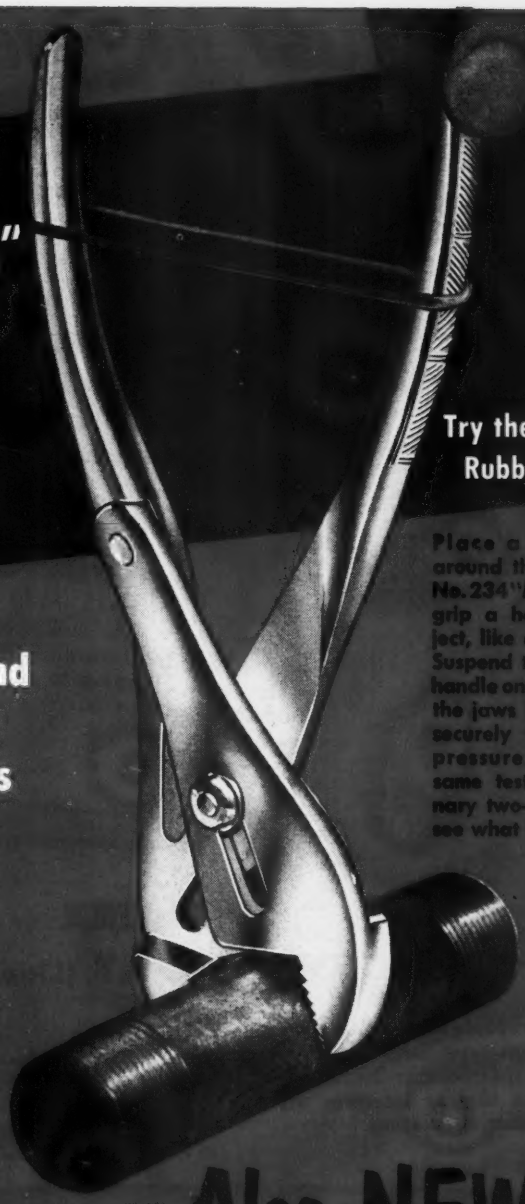
**Order your fall stocks now.** Just use the Special Offer number when ordering. Your jobber will serve you promptly. Or, write to Permatex, giving jobber's name.

MOTORISTS HAVE CONFIDENCE IN THE PERMATEX NAME. **PERMATEX PRODUCTS** ARE ADVERTISED NATIONALLY IN **THE SATURDAY EVENING POST, POPULAR SCIENCE** AND **POPULAR MECHANICS.**

**PERMATEX COMPANY, INC., Brooklyn 35, N. Y.**

MORE THAN 50 CHEMICAL PRODUCTS FOR BETTER AUTOMOTIVE MAINTENANCE

# Sensational "Multi-Plier" Increases Your Gripping Power 10 Times!



## Unique, Three-Piece, Compound Leverage Design Is Greatest Plier Development in 19 Years

Everyone should own PROTO's new "Multi-Plier"—a multi-purpose, multi-pressure plier that is really a "chest of tools in one." By using a patented three-piece design to compound the leverage, pressure applied to the handles is increased *ten times* at the jaws. That means you can hold square, round and even tapered objects securely with just a slight grip. The plier gets into hard-to-reach places, works safely at any angle, and holds small or large objects, having four different jaw opening positions. First try this revolutionary plier—No. 234—at your PROTO dealer's, and then buy one! Send 10¢ for 68-page catalog of entire PROTO line to

PLOMB TOOL COMPANY
2226Q Santa Fe Ave., Los Angeles 54, Calif.

5486

PROTO TOOLS ®
PROTO means PROfessional TOols

Eastern Factory—Jamestown, N.Y.
Canadian Factory—Loudon, Ont.

### Try the Novel Rubber Band Test

Place a rubber band around the handles of a No. 234 "Multi-Plier," and grip a hard-to-hold object, like a piece of pipe. Suspend the plier by one handle only, and note how the jaws hold the weight securely without further pressure. Now try the same test with an ordinary two-piece plier and see what happens.

## Also NEW! Bendix Brake Plier

Actually three tools in one, the new No. 216 plier handles three big jobs on Bendix brakes. Special jaws remove the hold-down cup. One handle releases anchor pin springs. The other handle replaces these springs. Get this plier now and save precious time on Bendix brake work.

# Chilton's MOTOR AGE

WITH WHICH IS COMBINED AUTOMOBILE TRADE JOURNAL

Reg. U. S. Pat. Off.

For THE AUTOMOTIVE SERVICE INDUSTRY

LXXIII, No. 11 — October, 1954



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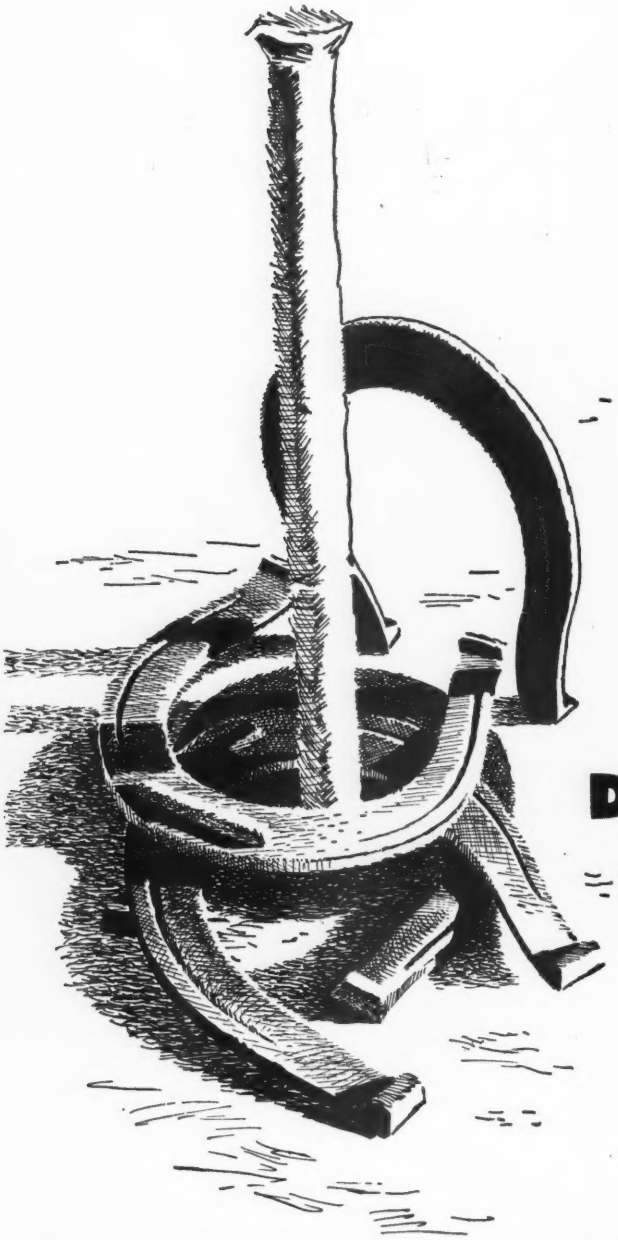
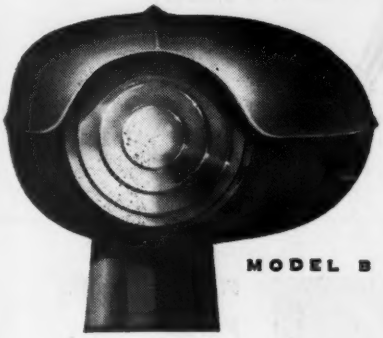


# See How You're Ahead of The Game With A DE SOTO-PLYMOUTH Sales Agreement!

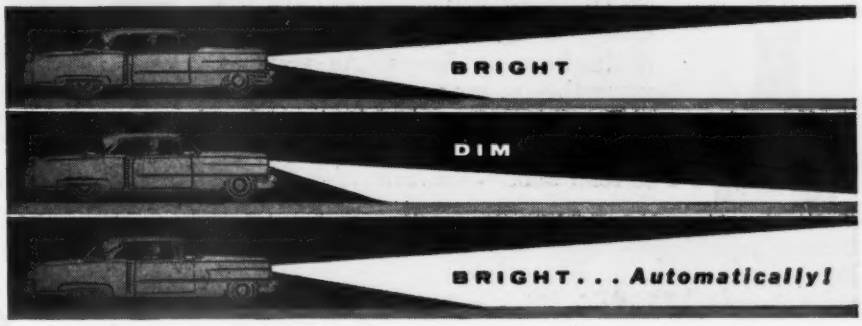
- Two Great Cars — One Sales Agreement
- A Market for 90% of New Car Prospects
- Top-Rated Groucho TV & Radio Shows
- Outstanding in Advertising Support
- Undisputed Engineering Leadership
- Chrysler Corporation Reputation
- Industry's Most Advanced Features
- A Large, Trained Field Organization

# PARTNERS FOR NIGHT DRIVING SAFETY



MODEL B

*My Cadillac and "eye"*




Autronic-Eye—a new standard of safety for the "Standard of the World"! This latest General Motors engineering "first" handles the complete job of headlight control *electronically!* When an oncoming car approaches at night, the Autronic-Eye *automatically* dims your headlights—holds them dim until all traffic has passed. Then back to bright—*automatically!* The amazing Autronic-Eye makes night driving much simpler and safer for more than 350,000 car owners.

# AUTRONIC-EYE®

**AUTOMATIC HEADLIGHT CONTROL**

*Another* GM ENGINEERING *First!*

® Trademark Registered U.S. Pat. Off.

**GUIDE LAMP DIVISION • GENERAL MOTORS CORPORATION • ANDERSON, INDIANA**

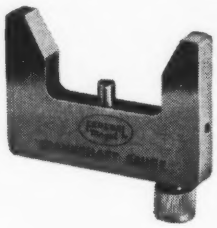
# "Aw, Shucks!...It wasn't nuthin!

## "I use FEDERAL-MOGUL ENGINE BEARING TOOLS ...they get the job out fast!"

### ENGINE BEARING OIL LEAK DETECTOR

**Check for worn bearings, plugged oil lines—without tearing down engine!** Also check work after overhaul is done. Pre-lubricate engine before first cold start. Show customer *why* bearings need replacement!

Two sizes: Five-quart tank capacity for car and light truck engines; Ten-quart tank capacity for both light and heavy-duty engines.



### CRANKSHAFT GAUGE

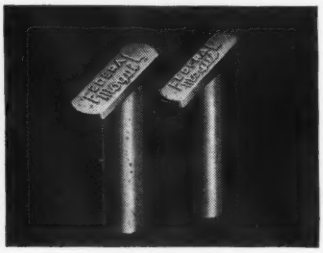
**Check shaft size,** without removing shaft from engine! Also helps you find out-of-roundness or taper in the shaft!

**Available in 5 sizes:**

| No. | Shaft diameter |
|---|---|
| 1 | 1.970 to 2.550 |
| 2 | 2.470 to 3.250 |
| 3 | 3.220 to 4.125 |
| 4 | 4.125 to 5.250 |
| 5 | 5.250 to 6.750 |

### OUT-OF-ROUND GAUGE

**Gives you quick, accurate check of connecting rod and main bearing bores.** As you move the gauge around the bore, needle indicates out-of-roundness in half-thousandths on easy-to-read dial.



### ROLL-OUT PINS

**Roll out upper main bearing halves** without removing the shaft from the engine. Roll new upper halves into place, too. Two sizes, 3/16" and 1/4" in diameter, fit most crankshaft oilways.

## *Ask Your Federal-Mogul Jobber*

**FEDERAL-MOGUL SERVICE**

Division Federal-Mogul Corporation

**DETROIT 13, MICHIGAN**

**The Complete Line—More than 7,000 Items:**

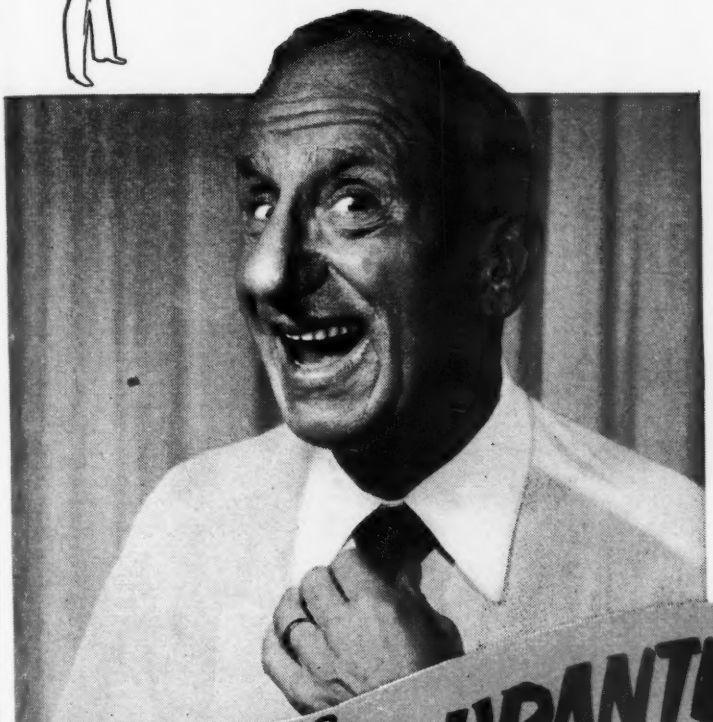
Engine Bearings (Main, Connecting Rod and Camshaft) • Bushings • Connecting Rod Service—Exchange Insert Rods, Rebabbitted Rods • Connecting Rod Bolts and Nuts • Shims and Shim Stock

GET IT FROM YOUR JOBBER

Whatever your engine bearing needs may be, you will find the best answer in the red-and-black Federal-Mogul package

# TOPS AGAIN ON TV!

# TEXACO STAR THEATER



STARRING JIMMY DURANTE OR DONALD O'CONNOR

- ★ **Alternating Saturday nights!**
- ★ **Actually two new TV shows!**
- ★ **Starting October 2nd!**
- ★ **60 stations—NBC-TV Network!**
- ★ **Comedy!...Music!...Guest Stars!**
- ★ Texaco does it again...now with two of the entertainment world's most popular comedy and song-and-dance stars.
- ★ Texaco Dealers will have special promotion material for their stations, to tie in with the new programs...to bring in new customers and keep old customers coming back!

THE TEXAS COMPANY

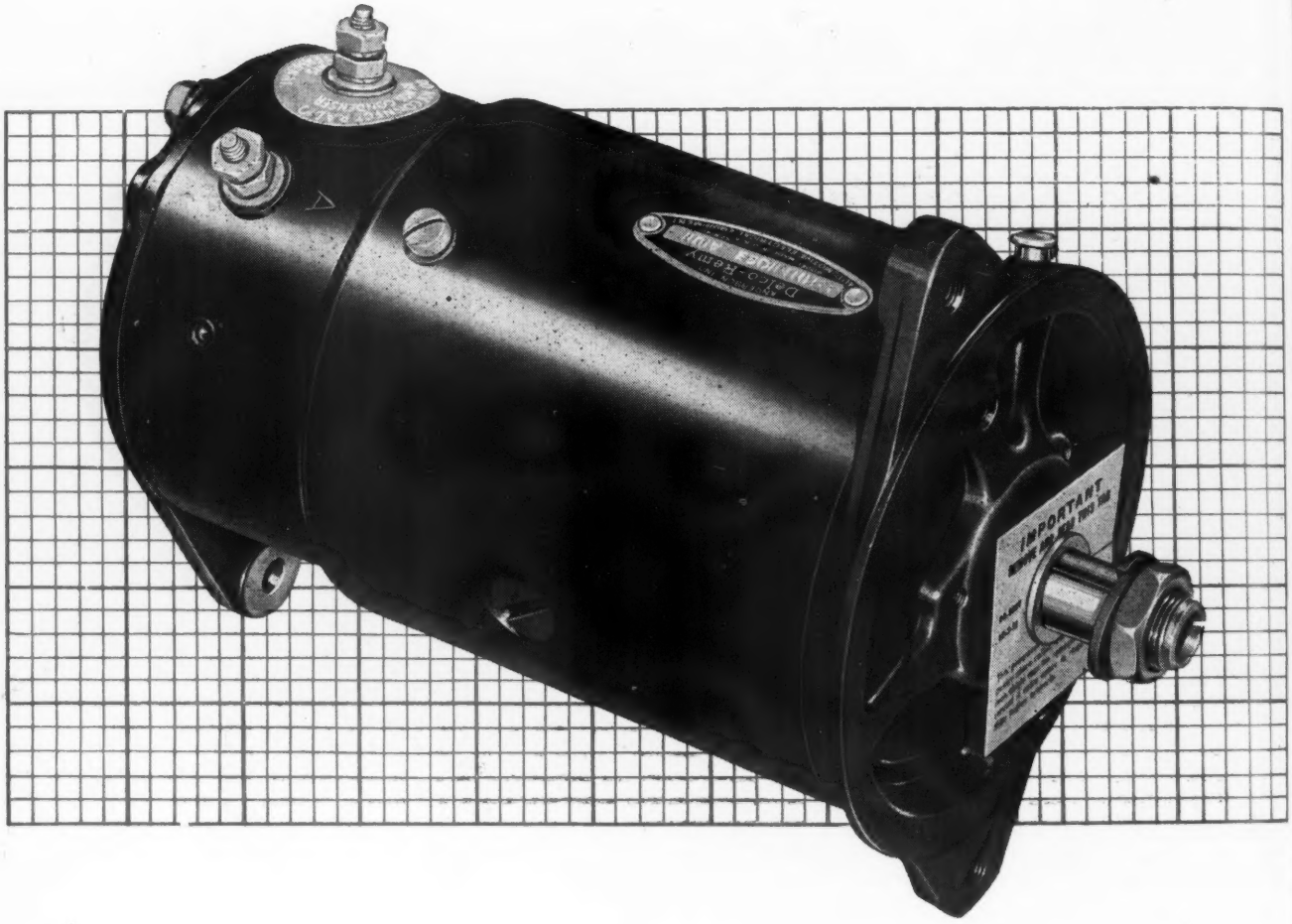
TEXACO

REG. T.M.

*No wonder TEXACO DEALERS are such busy dealers!*

# Delco-Remy

## UNIVERSAL GENERATORS




A new comprehensive exchange program for Delco-Remy replacement generators has been built around your suggestions. It is specially designed to help you serve—promptly and profitably—the millions of cars and trucks originally equipped with Delco-Remy electrical systems.

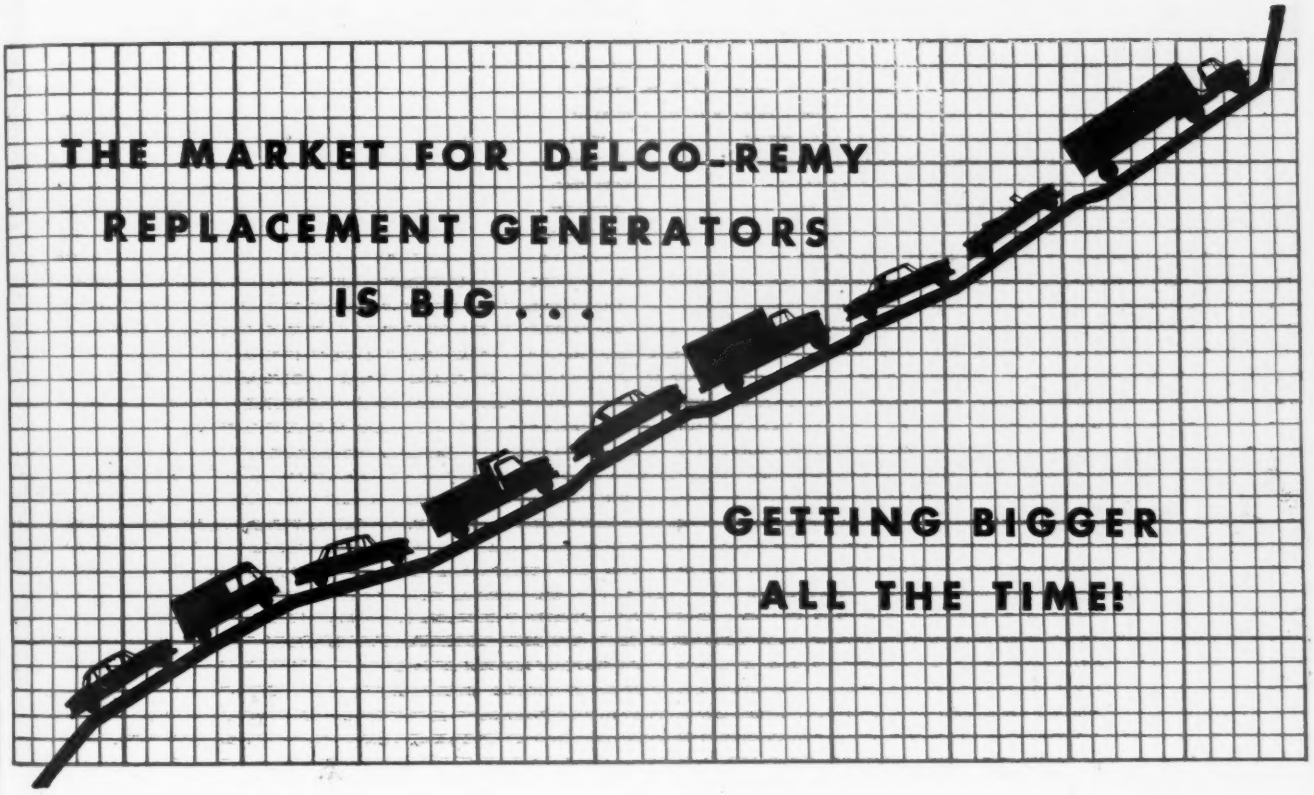
The program includes not only new universal generators *built to original equipment standards* but also factory-authorized

A GENERAL MOTORS PRODUCT — A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

WHEREVER WHEELS TURN OR PROPELLERS SPIN

# BUILT TO ORIGINAL-EQUIPMENT STANDARDS— DELCO-REMY UNIVERSAL GENERATORS ARE RIGHT FOR MILLIONS OF REPLACEMENT APPLICATIONS!




rebuilt generators with equal guarantee. These generators give your customers original equipment performance—maintain the balance designed into Delco-Remy electrical systems, thus helping to prolong the life of other electrical units.

You'll find it pays to stock Delco-Remy universal generators. See your nearest United Motors wholesaler for complete information on the new exchange program.

**Delco-Remy**

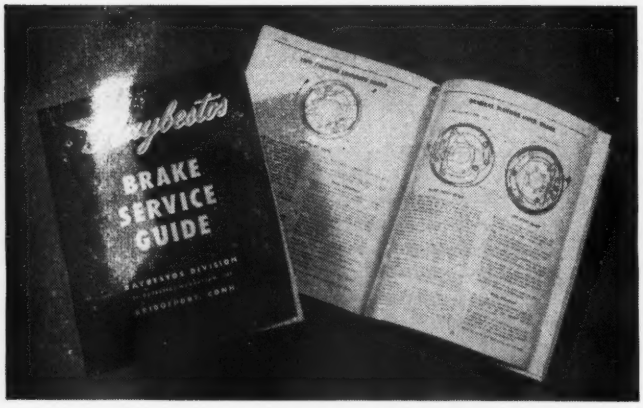
DIVISION, GENERAL MOTORS CORPORATION, ANDERSON, INDIANA

WHEREVER WHEELS TURN OR PROPELLERS SPIN

# Raybestos can make brake work your most profitable service

**Raybestos supplies brake shoes that are lined with the right type of linings.** At Raybestos the very same combinations of Proving Ground Tested brake linings found in famous PG Sets are factory bonded to shoes with "Red Shearproof" cement in laboratory controlled ovens. Every single Raybestos bonded lined shoe is shear-tested before it leaves the factory. And every piece of lining is branded for your protection.

**Raybestos provides its dealers with time-saving, money-saving tools.** Pictured above are two typical items. The kit of brake service tools that Raybestos makes available is the finest ever offered. Thousands have already been distributed. The Raybestos Brake Bleeder and Fluid Dispenser is extremely handy and helpful. Its outstanding feature is a 4-way master cylinder plug that will fit almost any car.




**Raybestos keeps its dealers supplied with practical service information.** The Raybestos Brake Service Guide is complete in every respect. In addition to a helpful trouble-shooting chart, its 44 pages contain everything from basic fundamentals to detailed adjustment data for all popular brakes. The factory frequently supplements this information with technical service bulletins. And all essential lining information is provided by the Raybestos catalog.

**Raybestos supplies a complete selling plan to dealers who want to increase their business.** Included in it are identification signs, posters, ad blow-ups, the famous Raybestos Brake Certificate, a doorjamb sticker, a neighborhood mailing campaign, a classified advertising program, and other sales helps. Hard-hitting ads in the Post and Farm Journal support this program by constantly urging car owners to insist on Raybestos quality.

*Don't let your customers learn about bad brakes by accident!*

Reline with **Raybestos**®

GET IT FROM YOUR JOBBER

**AMERICA'S BIGGEST SELLING BRAKE LINING**

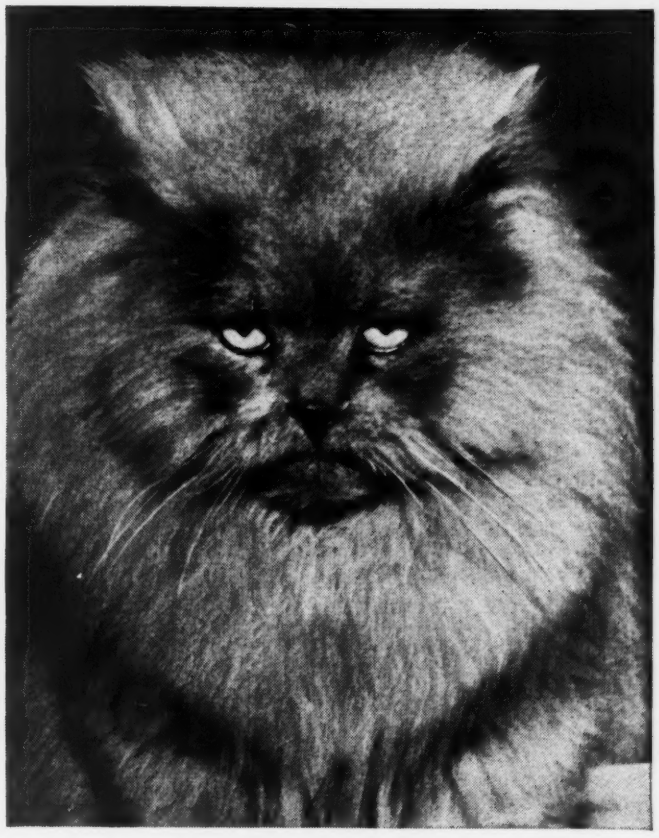
**RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., BRIDGEPORT, CONN.**

RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Industrial Rubber, Engineered Plastic, and Sintered Metal Products • Rubber Covered Equipment • Asbestos Textiles • Packings • Abrasive and Diamond Wheels • Bowling Balls

**1.** Even the glamour gal expects topnotch performance from her car . . .

**2.** And if she doesn't get it, she can make you feel very unhappy.

**3.** But if you want her to spread the good word about you and your organization . . .



**4.** Look her right in the eye and tell her "Ethyl" gasoline will give her car full power. (Of course, the timing should be set for "Ethyl" gasoline.)

© 1954, Ethyl Corporation, New York 17, N. Y.

# Pedrick

# FORMFLEX CHROME

## PISTON RING SETS

*for*

**EASY INSTALLATION**

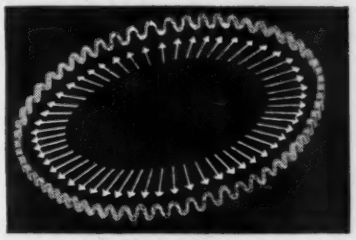
**SMOOTH OPERATION**

**CUSTOMER APPRECIATION**

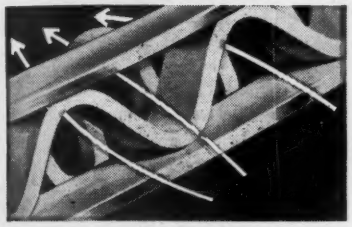
# 5 BIG PEDRICK ADVANTAGES FOR BEST PERFORMANCE • LONGEST LIFE

**PEDRICK FORMFLEX CHROME OIL RING**

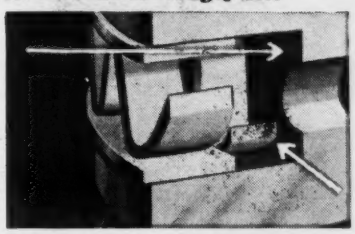
**AMAZINGLY CONFORMABLE**—Made possible by revolutionary type expander... the Pedrick "Equalizer."



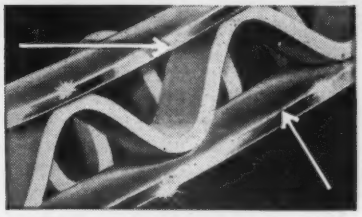
**UNIFORM PRESSURE DISTRIBUTION**—"Equalizer" gives equal outward pressure—more perfect seal—better oil control—longer life.



**ALMOST TRIPLE OIL DRAINAGE**—2½ times more open area provided by "Equalizer" and Spacer eliminate plugging.

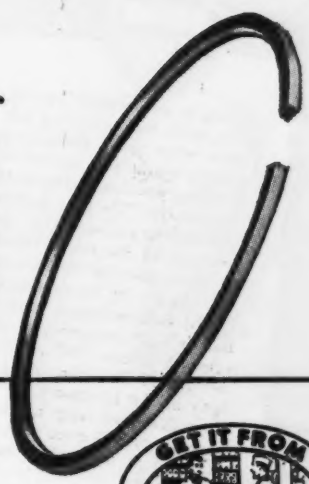


**INDEPENDENT OF GROOVE DEPTH**—"Equalizer" does not rely on contact with bottom of groove for pressure or tension.



**CHROME FOR LONG LIFE**—Both rails are faced with solid chrome to last far longer in spite of heat, friction, abrasion or corrosion.

## ...AND FOR HEAVY DUTY ENGINES Pedrick CHROME TOP RING...



**TWO TO FOUR TIMES LONGER LIFE.** The solid hard chrome face lasts up to 4 times longer and also reduces wear on cylinder wall and on all the other rings.

**ELIMINATES BREAKAGE.** A special alloy, centrifugally cast and heat-treated, is exceptionally tough and stands up without breakage even under the heaviest loads.

**HEAT-SHAPED.** Process developed and used exclusively by Pedrick to insure correct and lasting tension, and to maintain uniform pressure around entire circumference of ring.

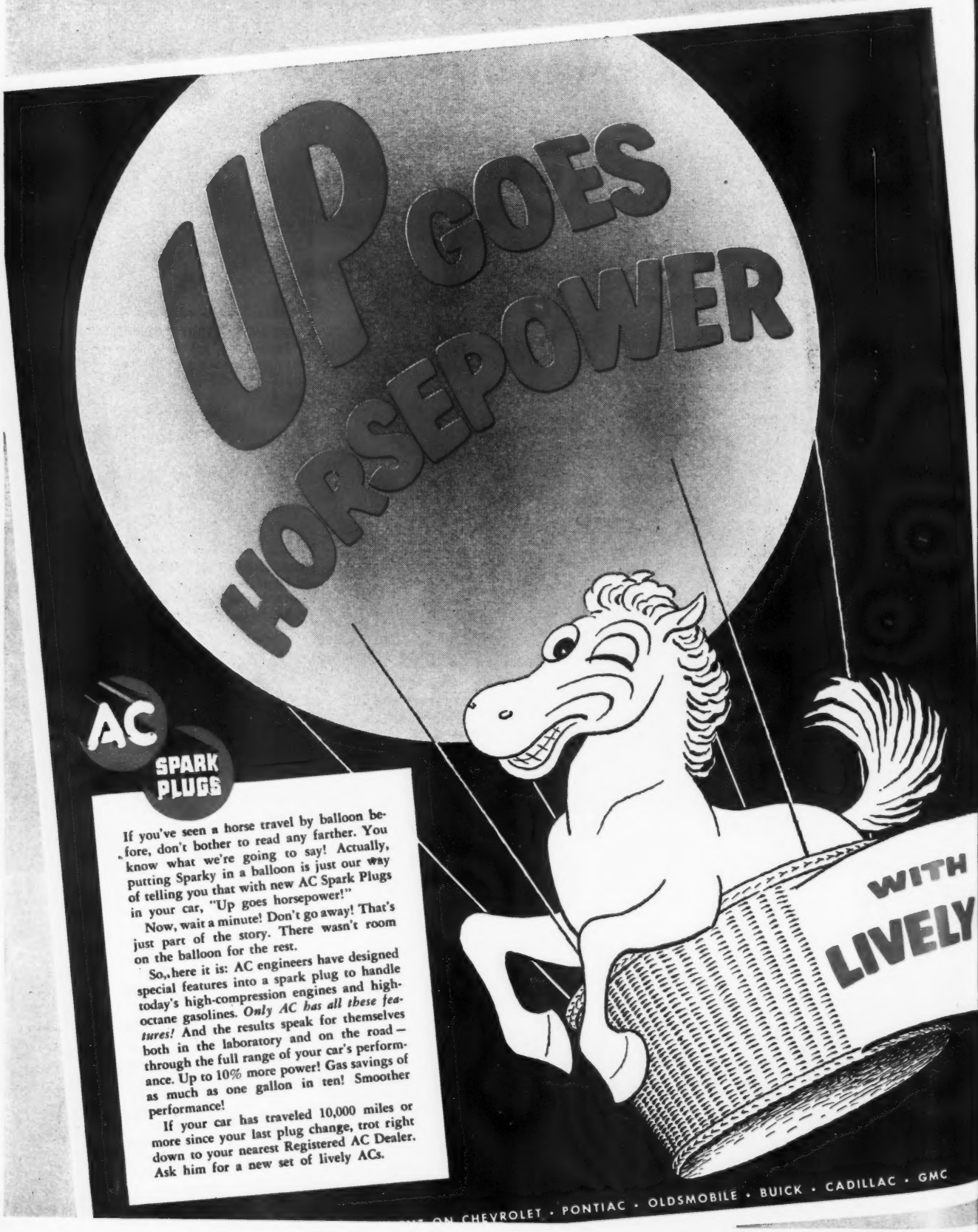
**POSITIVE 3-WAY SEAL.** Twist-Seal design gives point contacts at cylinder wall and upper and lower sides of ring groove—for quick and lasting seals at all three locations.

**WILKENING MANUFACTURING CO.**
**PHILADELPHIA 42, PA.**

*In Canada:* Wilkening Manufacturing Co. (Canada) Ltd., Toronto

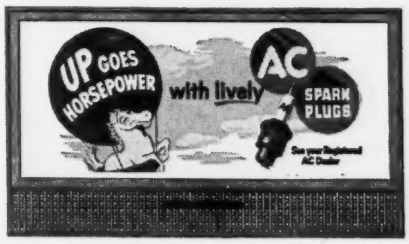
GET IT FROM YOUR JOBBER

# UP your sales with AC's

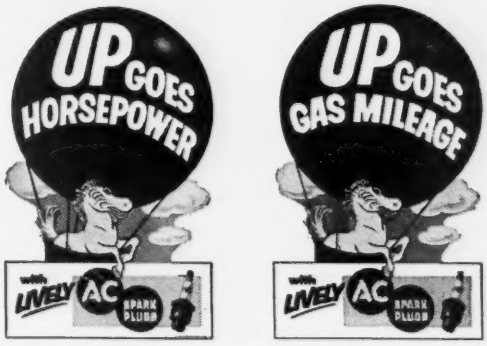


# smashing NEW Spark Plug Campaign!

Ballooning horsepower is the theme for AC's new October Spark Plug campaign. At the left you see the smashing ad that will appear in top national magazines, in farm publications, and in men's magazines.




Here's the outdoor poster that will catch millions of car owners' attention from coast to coast. Same message, same power, same sales appeal.




And here's the colorful tie-in window display—cut-out balloons in brilliant colors telling your customers: "Up goes horsepower" and "Up goes gas mileage" with Lively AC Spark Plugs!

## PLUS— A KNOCKOUT CONVERSATION-STARTER!

A worn-out plug hanging from a gallows! Message? "Caught Stealing Horsepower." This is going to dramatize the need for spark plug replacement – and it's going to start a lot of talk that leads to sales! It stands, it hangs free, it goes on wall or window!

**BIG THINGS** are going on at AC. Registered AC Dealers automatically receive these powerful business-boosting campaigns. Are *you* registered? If not, better ask your AC Wholesaler.

AC SPARK PLUG DIVISION GM GENERAL MOTORS CORPORATION
FLINT MICHIGAN

**PACKARD BATTERY CABLE**—*Packard battery cables are used as original equipment on more cars, trucks, buses and tractors than cables of any other make. Packard battery cables are full size, full weight . . . are available with* **LEADALLOY** *terminals or leaded brass terminals. Both types are packaged in individual cartons—both deliver top performance—both have acceptance, everywhere.*

It's true—automotive engineers prefer Packard cable for original equipment on cars, trucks, buses and tractors—vehicle owners and repair shops prefer it for replacement service—jobbers and dealers prefer it for its wide *acceptance* and quick *turnover.*

**FOREMOST BUILDER OF AUTOMOTIVE WIRING**

# "I don't need to. My customers agree with me that Packard Cable is tops."

**PACKARD IGNITION CABLE**—*Long considered the standard of the automotive industry, Packard high-tension cable is original equipment on more cars, trucks, buses and tractors than any other cable. Packard* **FOUR-FORTY** *and Packard* **LAC-KARD** *ignition cables are designed to deliver balanced performance in every application. For dependability on the job, choose Packard!*

**PACKARD LOW-TENSION CABLE**—*As with Packard's two other products, Packard low-tension cable is used as original equipment on more cars, trucks, buses and tractors than cable of any other make. Packard's* **249 COMPOUND** *insulation, by every laboratory test and by the test of long, hard usage in the field, has exceptional resistance to heat, oil, chemicals and abrasion.*

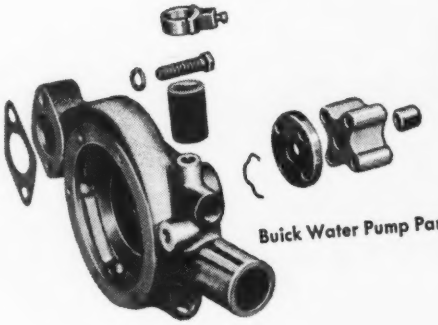
Packard
REG. U.S. PAT. OFF.
TRADE MARK

**Packard Electric Division**
**General Motors Corporation**
**Warren, Ohio**

**A GENERAL MOTORS PRODUCT** GM GENERAL MOTORS UNITED SERVICE MOTORS **A UNITED MOTORS LINE**

**Start winter-conditioning cooling systems now with BUICK FACTORY ENGINEERED Hose and Pump Parts**

Buick Hose and Clamps



Buick Water Pump Parts

See Section 2-F in your Buick Shop Manual

**CAREFUL BUICK OWNERS** will have their cars winter-conditioned now—if you remind them.

**AND THEY WILL APPRECIATE THE QUALITY OF YOUR SERVICE** on their cooling systems if you make sure to use *only* Buick Factory Engineered Parts.

**BUY THEM FROM YOUR BUICK DEALER**—at your full discount.

**Did You Know that temperatures up to 4500 degrees Fahrenheit, almost twice the melting point of iron, are at times produced in automobile engines?**

**BETTER WORK WITH FACTORY ENGINEERED PARTS**

ENGINEER APPROVED ACCESSORIES

BUICK

FACTORY ENGINEERED PARTS

**SEE YOUR BUICK DEALER**

*How she'll love you for this!*

# 11-inch traditional Wm. A. Rogers Bowl

## in heavy, gleaming silverplate

## *Hollingshead does it again*

### with the most beautiful premium ever offered

Here is an outstanding luxury premium, created especially for Hollingshead by the world-renowned silversmiths, Oneida Ltd. makers of Wm. A. Rogers silverware. This classic style bowl with its gadroon border will thrill any woman. It is a full 11 inches in diameter and 2¾ inches deep, with a heavy, gleaming layer of silver over copper for deep luster and extra long wear. This beautiful tablepiece is yours to take home for only $1.00 when you buy any 3-case assortment of the 14 Whiz Automotive Chemicals. This is the finest deal you have ever been offered . . . ask your supplier's salesman about Hollingshead 54-F premium deal.

AUTOMOTIVE DIVISION

Whiz®

R. M. *Hollingshead* CORPORATION

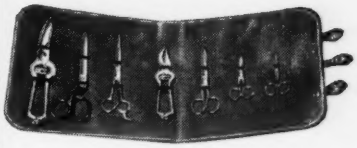
*Leader in Maintenance Chemicals*

840 Cooper St., Camden 2, New Jersey

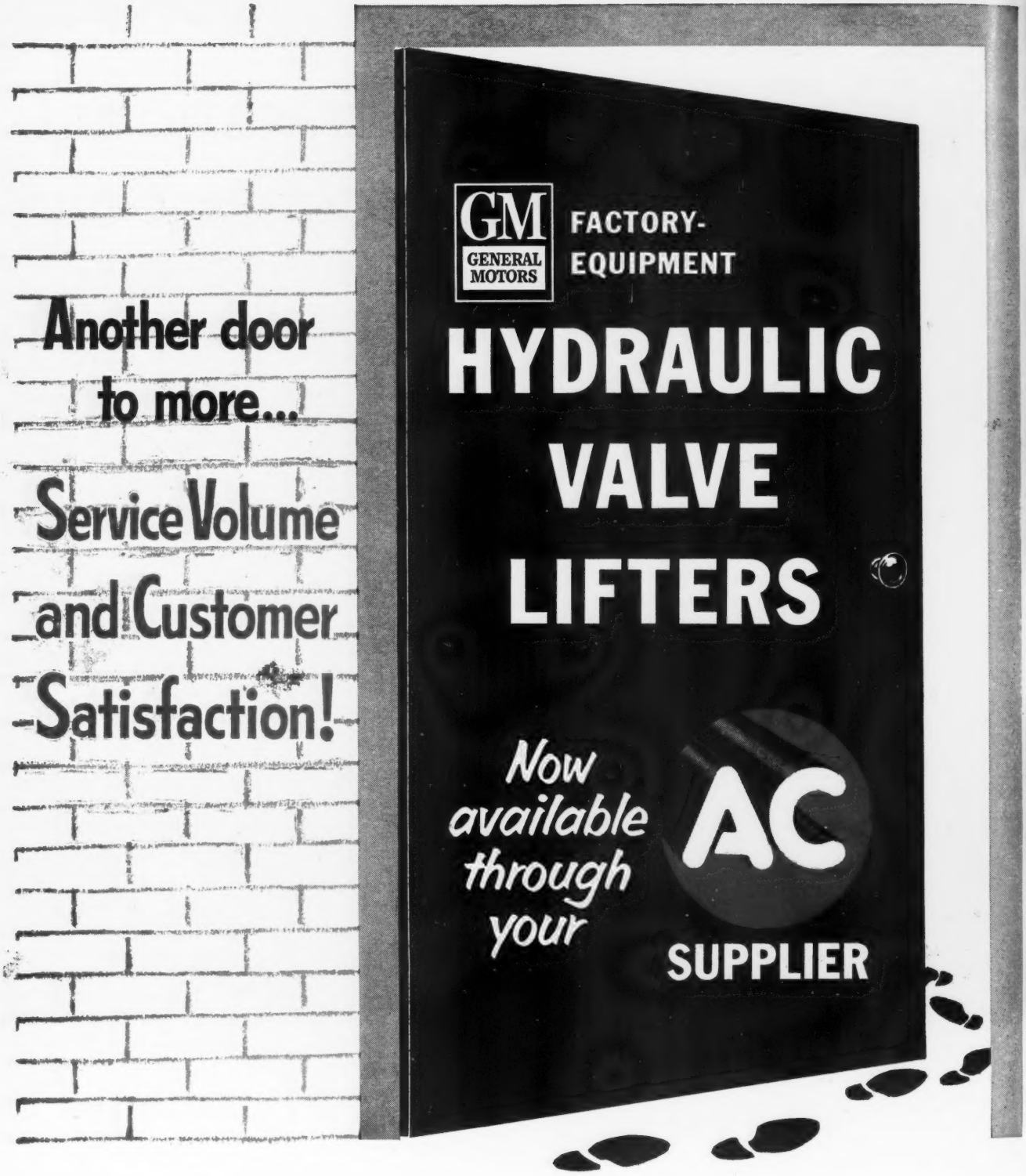
## Alternate Premium

imported

*7-pc. scissors set also only $1.00*



A scissors for every use in and around the home . . . each of high-grade surgical steel.



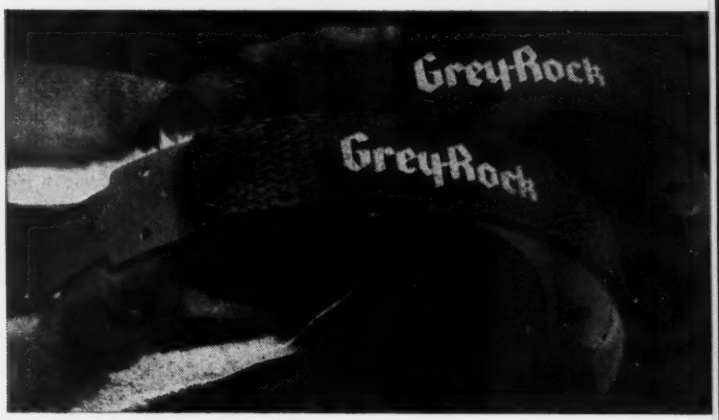

You can get GM Factory-Equipment Hydraulic Valve Lifters from your regular AC supplier . . . a time-saving convenience to you. They're precision-made, carefully sealed in peelable plastic coating for rust-proof storage. Each lifter is tabbed with parts number. For your protection and for easy identification, these hydraulic valve lifters are packed in sets in GM car division cartons.

With GM Hydraulic Valve Lifter equipment on so great a percentage of GM cars, your service requirements for replacement lifters are sure to rise. These lifters will do a customer-satisfying job for you. They bring you additional volume and profit. In many jobs a complete new set of lifters will be called for—and, while the job is "down," all lifters should be checked. Be ready for this business. See your AC supplier.

GM GENERAL MOTORS AC SPARK PLUG DIVISION • GENERAL MOTORS CORPORATION
FLINT, MICHIGAN

***"You tryin' to kill somebody, Mister?*** Where's your brakes?" Predicaments like this turn motorists into prospects for your brake lining service. Grey-Rock advertising in national magazines directs them to *you* for brake inspection every 5,000 miles and for reline jobs when they are needed.

***You reduce adjustments and come-backs***—assure better profit on each job—with Grey-Rock *Balanced* Linings. For with Grey-Rock, balance is not just a matter of high and low friction linings; it is the result of using *many* different linings in combinations properly *engineered* for each make and model. This exclusive Grey-Rock balance principle provides fast, safe stops and equalizes lining wear.




***Distinctive woven-molded linings*** are combined in Grey-Rock Balanced Braksets and Trucksets for the specially severe brake requirements of certain makes and models. Where used, *woven-molded* combinations provide far better brake action than molded linings alone. In other sets, special molded types are used where all-molded combinations give best results. This is a distinctive Grey-Rock feature!

See your Grey-Rock jobber for

**FACTORY-BONDED SHOE EXCHANGE**

*It's the lining that counts*

Every piece branded for your protection

★

*Consistently advertised in*

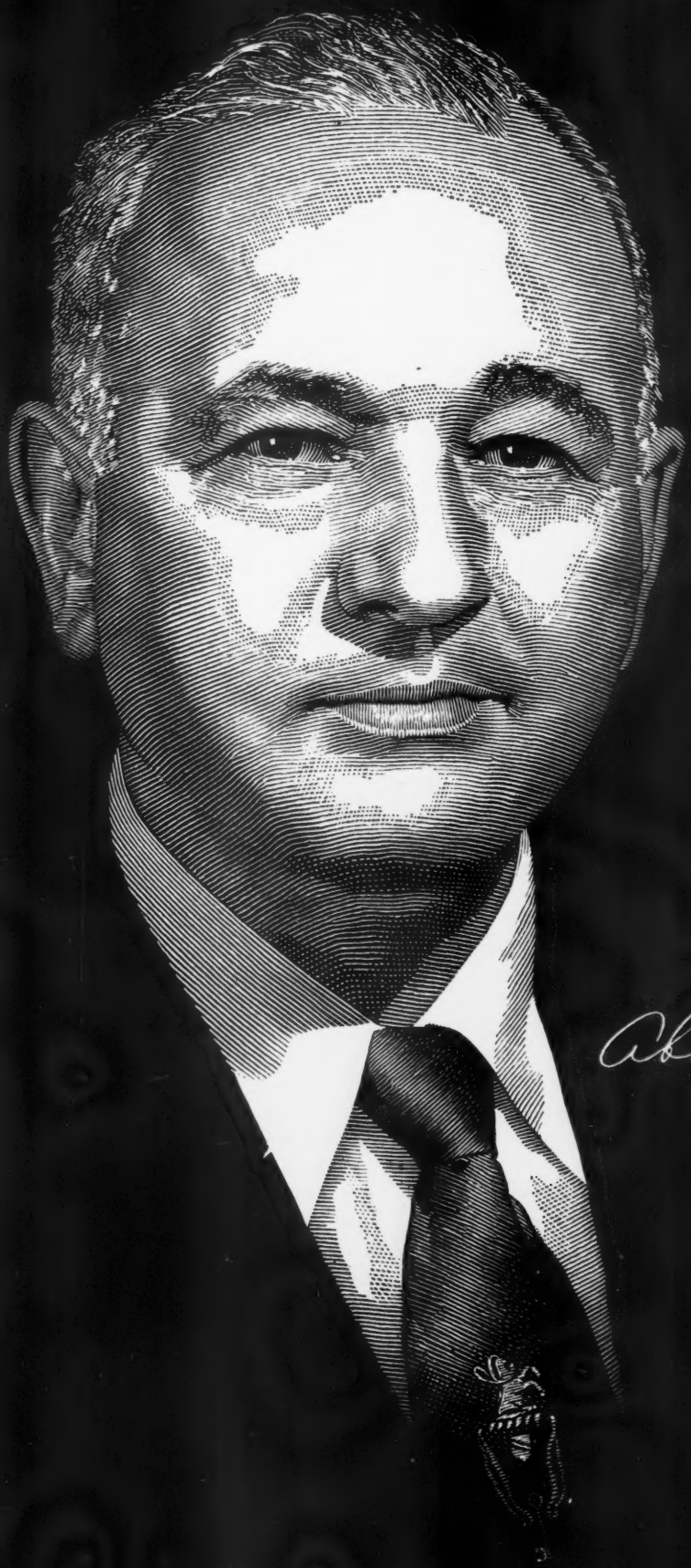
**POST and Country Gentleman**

***Only* Grey-Rock *makes***

**BALANCED BRAKSET LININGS**

**GREY-ROCK DIVISION** of Raybestos-Manhattan, Inc., **MANHEIM, PA.**

RAYBESTOS-MANHATTAN, INC., Brake Linings • Brake Blocks • Clutch Facings • Fan Belts
Radiator Hose • Industrial Rubber, Engineered Plastic, and Sintered Metal Products
Rubber Covered Equipment • Asbestos Textiles • Packings
Abrasive and Diamond Wheels • Bowling Balls



President
AUTOMOTIVE DISTRIBUTORS, INC.
LYNN, MASSACHUSETTS

Gilchrist

YOU'

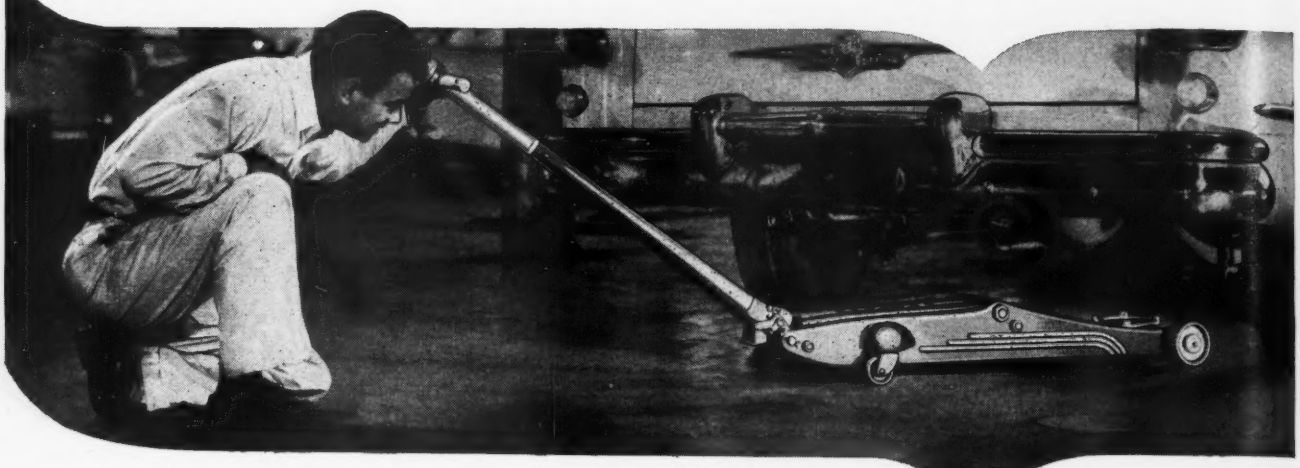
"AUTO-LITE's done it again . . . it's our top profit line," reports Mr. Abraham Levy.

"Your plan works for any dealer who will work the plan. STA-FUL brings a long profit for the same service cost, and your Sell-up kit gets these premium sales. With your big original equipment backlog and the strongest advertising in the industry, Auto-Lite has everything for the man who likes to make money."

# AUTO-LITE BATTERIES

YOU'RE ALWAYS RIGHT WITH AUTO-LITE

# Sleek! Smooth! Fast! Easy



## No wonder they're called Walker Greyhounds!

Here's the beauty, color, streamlined showmanship that modernize your entire service department, that speak up for speed and efficiency, that give your customers confidence. Here's a new "yardstick" of service jack performance . . . with an extra margin of strength for the unexpected . . . an extra margin of safety for greater protection . . . an extra margin of power when emergency calls.

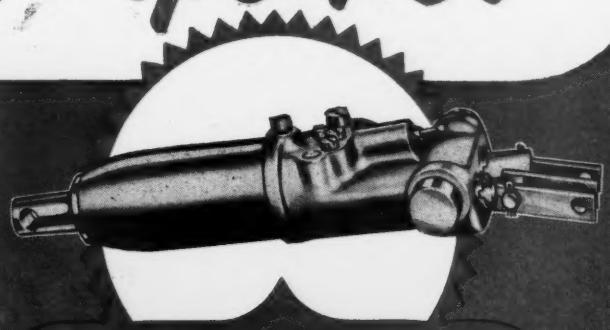
Here is the famed "Gold Seal" Power Unit for dependability and speed . . . exclusive self-centering "finger-tip" control for trouble-free service . . . automatic "overload" protection for greater safety . . . "flash contact" to reach the load with minimum effort.

Try the Walker Greyhounds for all passenger cars, for all but heaviest trucks and tractors. See how the low, sleek chassis ducks under long, low overhangs. See how the long handle with "pistol grip" control gives greater convenience. Test the quick, sure power raise, with plenty of room for all kinds of work. Look at these deluxe service jacks now. You'll see why they're called the Walker Greyhounds. You'll know they belong in your shop . . . because they cost no more than ordinary jacks.

# WALKER

WALKER MANUFACTURING CO. OF WISCONSIN · RACINE, WISCONSIN

# to operate!



**THE NEW "GOLD SEAL" POWER UNIT**

**The Finest Hydraulic Power Mechanism Ever Developed for Service Jacks!**

(1) The revolutionary "I.S.D." Power Cylinder for greater wear resistance and a more positive seal . . .

(2) An ingenious new Self-Centering Control Mechanism

(3) Reciprocating parts precision ground to a tolerance of .0015"

(4) A new Filtered "Hydra-matic" Relief Valve for longer, safer service

### "Pistol Grip" Handle

A new, more comfortable molded handle with dual-control knob to control both handle position and release valves, and with "Easy Positioning" Handle Lock to secure the handle in two upright positions for easy positioning in close quarters.

### Plus many other exclusive Walker Features

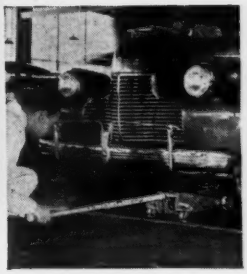
- "Straight-Line" Drive eliminates side strains on the power ram
- "Silent Speed" By-Pass Valve on the booster pump
- "Air-Bound Proofed" Design to prevent lost strokes
- "Flash Contact" with automatic cutout from booster pump to power pump
- Full "Radial Thrust" Casters
- Dirt Sealed Front Wheels
- Giant Saucer Lifting Cap to handle all types of jobs

# leads in JACKS

Jacks • Exhaust Silencers • Oil Filters

# What's *News* at Walker

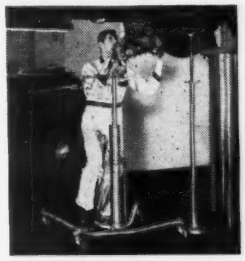
It's true! Only Walker offers a complete line of jacks for every vehicle and every job. Your Walker distributor has the famous Walker *Greyhounds* shown here. See him, and try them, for a great new standard of service jack performance. And while you're looking, see the Walker *Whippets* for quick service on floor or driveway . . . the *No. 780* for heavy-duty service . . . the rugged *Series 900* portable hydraulics (8 models—from 1½ to 50 tons) . . . and all these other Walker values!



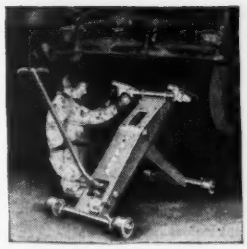
### "You can whip it with a WHIPPET"

. . . say mechanics everywhere. This quick service jack has a 48-inch "Handy Handle" for easy handling, positive control of lowering. Its rigidized "Dreadnaught" Steel Chassis resists twisting and weaving under load. And its "Blue Seal" 3,000 lb. capacity all-steel hydraulic power unit assures a long life of smooth, trouble-free operation. No. 867 with "Radial Thrust" Casters at rear. No. 857, same with wheels at rear.

### New Walker Transmission Jack Speeds Shop Work



No. 48 Uni-Cradle enables one man to safely handle all automatic transmissions (including Chevrolet "Powerglide") . . . raises and lowers transmissions with "Micrometer" accuracy . . . tilts it through a 98° arc . . . "Axis-Rotates" it for accurate, more positive alignment.



### Another Service Speeder—the famous Walker No. 76

The first completely self-powered, portable hydraulic one-end lift for all types of under-car service. Often serves as an extra lift when complete lift installation is impractical.

### Try 'Em on Your Customers!

And for extra profits without extra effort, put these Walker Passenger Car Jacks in your favorite window. Your customers can't keep from trying the new Walker *400*—America's easiest-to-use, safest-to-use bumper jack. They'll try . . . and buy . . . the convenient, easy operating "647," the finest of all mechanical bumper jacks. Show Walker Jacks and Accessories for good year-round plus-profits.

No. 400 No. 647

GET IT FROM YOUR JOBBER

**Your Walker distributor is JACK HEADQUARTERS**

# "We're selling as many as ever"

What makes Country-Side America such a good automotive market?

First of all, the 19,000,000 families who live here—in towns under 10,000, in crossroads villages, down country lanes, and on farms—own one half the nation's cars. Last year over 33% of the new cars and 51% of the trucks made were sold here. These people also account for over half the service work that gets done. There are few automobile dealers, even in big cities, who don't get some business from Country-Side families, while 60% of gas stations, 50% of TBA dealers, and 62% of car dealers get *all* their business from these people.

Without doubt the most effective sales medium in this market is the Country-Side Unit — the combination of Farm Journal and Town Journal magazines. Farm Journal is America's largest selling farm magazine. Town Journal is the only dual-appeal magazine devoted exclusively to Country-Side family interests. Together, they reach and sell over 4,450,000 of the best families in the nation's biggest and best automotive market. That's why advertisements in the Country-Side Unit get results!

Dealers, however, like another thing about sales support in the Country-Side Unit — the local coverage it gives them. Because the Country-Side Unit concentrates its shots, it covers their own customers and prospects like a local newspaper.

Claims are worthless without proof. If you would like proof of the sales job which the Country-Side Unit can do for you, send for the Country-Side Analysis Folder for your territory. It's free. Write Dealer Service Department, Farm Journal, Inc., Philadelphia 5, Pa.

+

=

**THE COUNTRY-SIDE UNIT...**

**4,450,000 of the best families concentrated in America's biggest automotive market**

**SELLS THE WHOLE COUNTRY-SIDE MARKET**

# ANOTHER GREAT AUTOMATIC TRANSMISSION TOOL

# New Britain

## 6 in 1 SEAL DRIVER

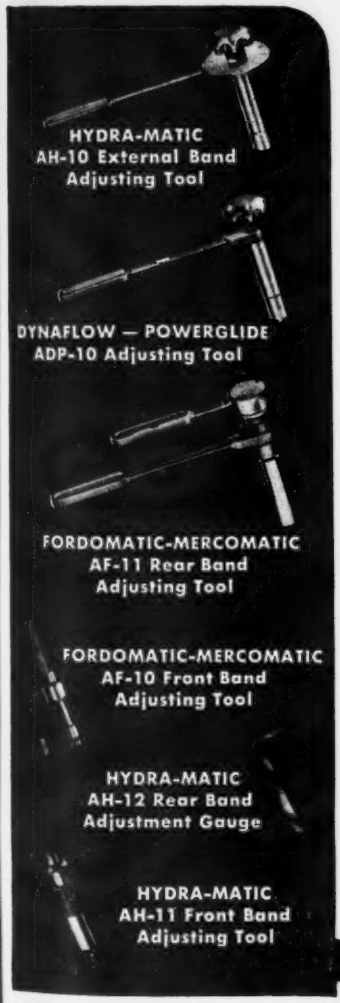
Replacing Front Seal (Oil Pump Removed)

This one Tool combination SAVES money for you — replaces more than a dozen individual tools costing many times more. For Hydra-matic, Dynaflow, Powerglide, Fordomatic and Mercomatic, this money-making new Tool by New Britain speeds automatic transmission servicing for you. The rugged, top quality alloy steel Seal Driver and 6 Adapters, with rust-proof, Parkerized finish, give you the right combination for installing both front and rear oil seals FAST and EASY Permits installation of seal without removing pump from transmission. Proper fit prevents the seal distortion that causes oil leakage.

Replacing Hydra-matic Front Pump Oil Seal

Replacing Hydra-matic Rear Oil Seal

**OTHER MONEY MAKING NEW BRITAIN TOOLS FOR AUTOMATIC TRANSMISSIONS**




Add to your profits with this new 6-in-1 Seal Driver and other New Britain Automatic Transmission Tools. Call your Jobber today!

# New Britain HAND TOOLS

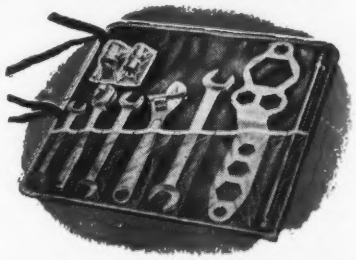
GREATER STRENGTH • BETTER FIT

THE NEW BRITAIN MACHINE CO. • NEW BRITAIN, CONN.

# wix PUTS YOU A STEP AHEAD Selling ENGINEERED FILTRATION AT A PROFIT

## WIX PROVIDES COMPLETE COVERAGE IN OIL FILTER CARTRIDGES—PLUS THE TOOLS TO SELL THEM!

Time is Money . . . anything that enables your Shop to do more in fewer minutes is the shortest route to profits. That's why the complete WIX Line is a money-maker for you. WIX provides *complete coverage* in Oil Filter Cartridges, the outstanding Wall Chart in the industry, and the sensational, new Tool Kit . . . everything you need to make Filter servicing simple, sure and *fast.* Moreover, WIX assures the utmost in filtration, with WIXITE, the Resilient Density Filtrant for by-pass systems, and POROSITE, the new, pleated paper Filtrant for full-flow systems. These superior filtering media spell longer life for oil and engines, economy and satisfaction for your customers.

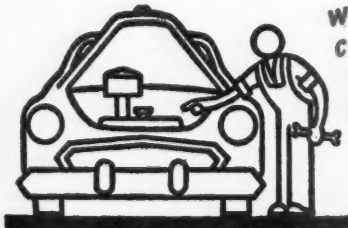


**WIX OIL FILTER SERVICE TOOL KIT FITS ALL FILTERS, EVEN THOSE HARD-TO-GET-AT MODERN CARS.**

**WIX FILTER IDENTIFICATION CHARTS PICTURE AND DESCRIBE ALL POPULAR FILTER MAKES AND MODELS.**

### FILTER-PAX—Especially for Car Dealers

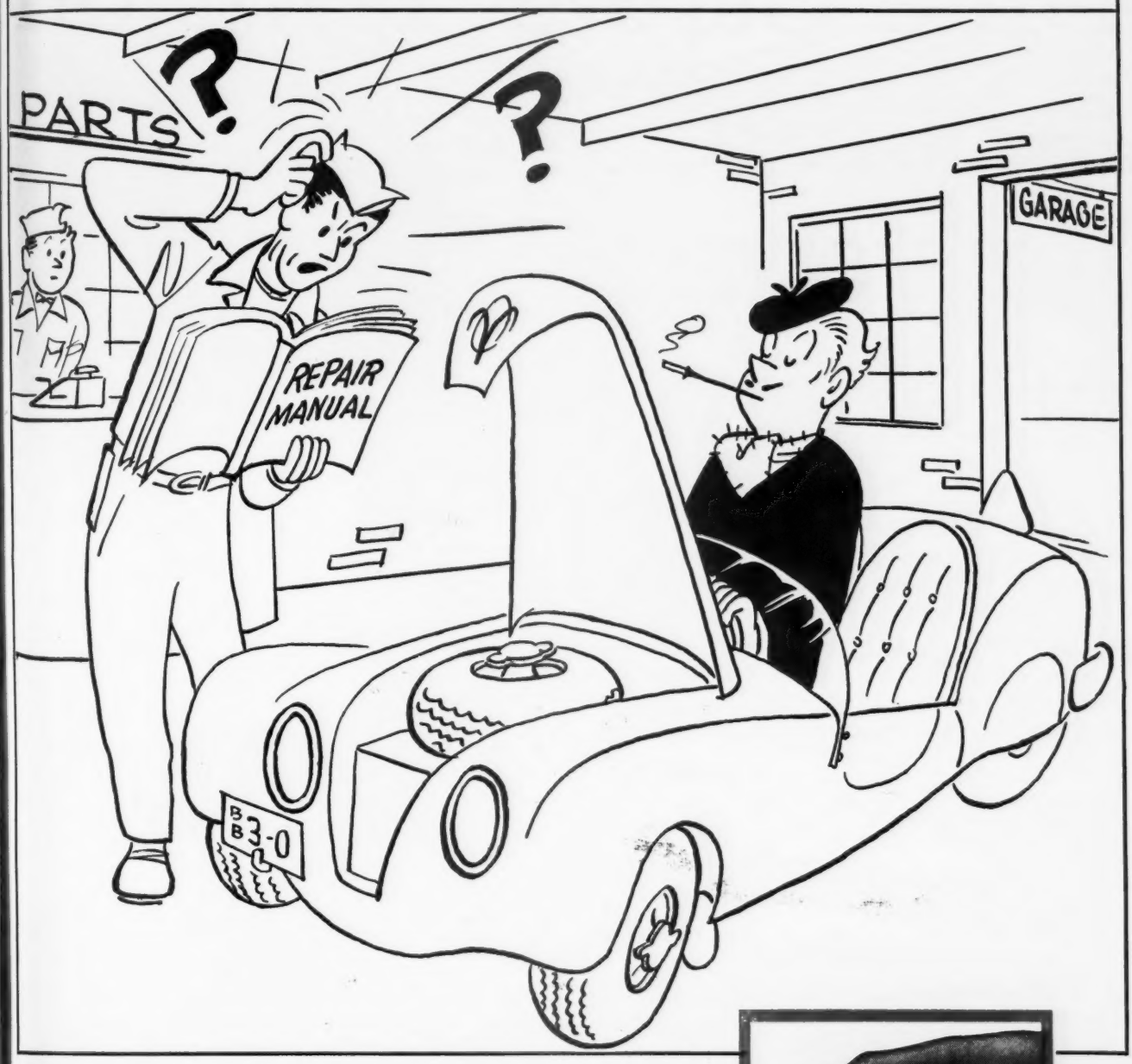
**This cost-cutting Service consists of 100 lb. shipments of WIX Filters and Cartridges in standard Cartons, individually boxed and complete with fittings and instructions, sent direct to you from the WIX Factory or nearest Warehouse. Special, low FILTER-PAX Prices spell added profits for you. Get the details today.**

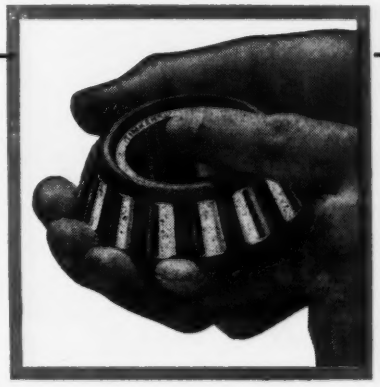


WIX GIVES ME COMPLETE COVERAGE TO SERVICE EVERY CAR THAT COMES INTO THE SHOP!

**WIX CORPORATION • GASTONIA, N. C., U. S. A.**

# It takes all kinds of customers...



## ...but they all want the best. And when it's bearings,

## *just tell 'em it's TIMKEN®!*

One good way to keep customers coming back for service is to use the best replacement parts. When they need bearings, for instance, be sure to point out the trade-mark "Timken®". Customers know it stands for quality and top performance. The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

**TIMKEN** ***TAPERED ROLLER BEARINGS***

TRADE-MARK REG. U. S. PAT. OFF.

NOT JUST A BALL NOT JUST A ROLLER THE TIMKEN TAPERED ROLLER BEARING TAKES RADIAL AND THRUST LOADS OR ANY COMBINATION

# Blue Streak Ignition is better for your business

39,000 top ignition men agree: Blue Streak ignition parts are sturdier; they last for more miles; their performance spurs your customer to tell his friends, "Great mechanic that Joe." You see, we build your reputation insurance" into our parts. For example, look at the heavy-duty construction of the **BLUE STREAK DIMMER SWITCH.**

GET IT FROM YOUR JOBBER

**TRIGGER ACTION**
Unique oscillating action (instead of conventional slow rotary action) snaps contact like a firing pin, cuts arc-at-break, lengthens contact life.

**ALLIGATOR TERMINALS**
With teeth that bite into wire terminal to form a permanent electrical and mechanical connection.

**HERMETICALLY SEALED**
Against the entrance of moisture or dirt. A vital feature, since the switch rides down there below the floorboards.

BLUE STREAK

**SEE YOUR BLUE STREAK JOBBER**

**STANDARD MOTOR PRODUCTS,** *Inc.*
*Long Island City 1, New York*

# Country Gentleman

**THE MAGAZINE FOR BETTER FARMING**

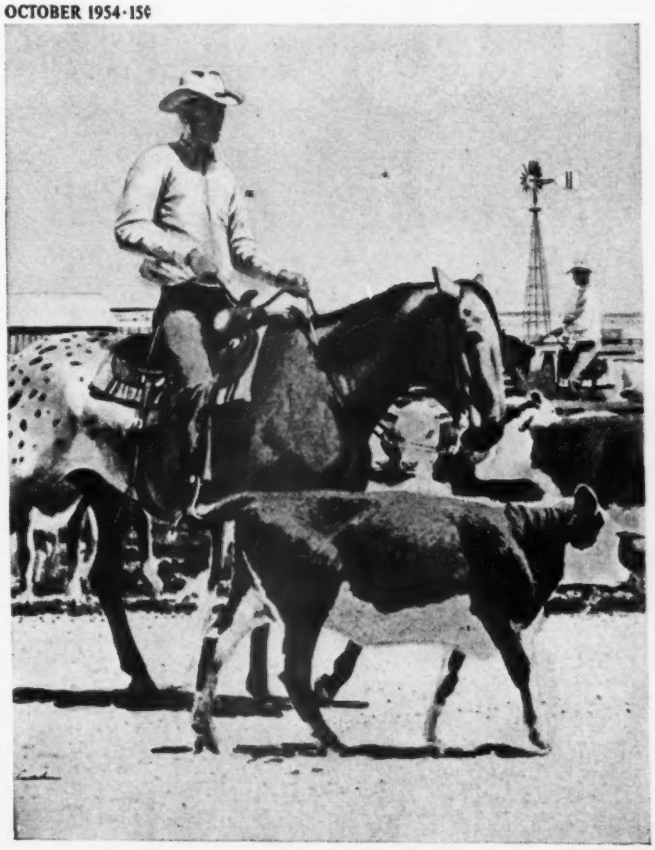
OCTOBER 1954 · 15¢

Important Message to You (Page 30)

New! Special Washington Letter to Your Area (Page 24)

What's Ahead for Corn Prices? (Page 62)

Are You a Good Wife? Husband? (Page 92)



## WHY ARE WE CHANGING THIS MAGAZINE'S 101-YEAR-OLD NAME?

American farming is changing, and *Country Gentleman* is changing with it.

Today, top farmers are producing twice as much per man and per acre as average farmers. They *live* twice as well, *buy* twice as much.

Our editorial aim is to help more farmers become better farmers—to help more farm families convert better farming into better farm living.

So, beginning with the January issue, the name and aim of *Country Gentleman* become one—*Better Farming*.

Better farming on more farms—more profitable sales to more prosperous farmers . . . that's what *Better Farming* means!

**Starting in January-*Country Gentleman* is changing its name to**

A Curtis publication **Better Farming**

# Immediate Oil Control

*—another reason why*

## Sealed Power KromeX

**Piston Ring Sets deliver the world's best**

**ALL-AROUND PERFORMANCE FOR THE MOST MILES!**

28 MAJOR ENGINE BUILDERS use Sealed Power chrome top rings!

Some people say you can't get immediate oil control with chrome rings. They aren't talking about Sealed Power KromeX Sets. Because Sealed Power KromeX Sets are factory-seated to give fast break-in and complete oil control in only a few hundred miles. The Sealed Power chrome top compression ring, the chrome-faced steel rails on the MD-50 Steel Oil Ring, and the FULL-FLOW SPRING are important factors in this amazing performance. No other piston ring set excels Sealed Power KromeX results!

SEALED POWER CORPORATION, MUSKEGON, MICHIGAN

## Sealed Power Piston Rings

BEST IN NEW CARS! BEST IN OLD CARS!

Sealed Power Motor Parts—The *Heart of the Engine* • Rings, Pistons, Pins, Sleeves, Valves, Water Pumps

# "I Cover the Autofront" .....by Len Westrate

AN INDICATION OF THE RAPID PRODUCTION pace that can be expected in the automobile industry the few remaining months of this year is the announcement by Chrysler Corp. that several of its plants will go on twin shifts for the first time in more than a year.

WITH THE EXCEPTION OF PACKARD, most car plants will be back in swing on the 1955 models by the end of October.

## '55 Packard Gets the Works

PACKARD WILL OFFER MORE CHANGES in its 1955 line than any other company. It will include new styling, two new V-8 overhead valve engines, redesigned Ultramatic, and probably a new torsion bar suspension system on higher priced lines.

★ ★ ★

HUDSON AND NASH MODELS for 1955 will have the same basic body shell. Both cars will be built on the Nash assembly lines at Kenosha. Styling differences will be achieved through grilles, moldings, fender and deck lid treatment.

## NADA Members Do an 'About Face'

TERRITORY PROTECTION FOR CAR DEALERS is getting some attention from NADA which has again polled its members on their preference for such a clause in franchises. Results show about 55 per cent in favor, a direct reversal of last year's straw vote when 54 per cent were against it.

THE MARGIN STILL IS NARROW, however, and NADA is undecided whether to run with the ball. Even so, prospects for necessary Justice Department approval or special law giving anti-trust immunity are not bright.

## Stude-Packard Borrows With Optimism

INDICATIVE OF THE HIGH HOPES the newly formed Studebaker-Packard Corporation has for gaining a larger share of the automotive market next year is the announcement that the corporation has borrowed $25 million from three insurance companies for its new operation. In addition to the loan, the firm has made a $45 million credit arrangement with 21 commercial banks.

★ ★ ★

STUDEBAKER PRICE CUTS of $37 to $287 on 1955 models is unlikely to touch-off price slashing among other companies. Studebaker won pay cut concessions from labor and is forced to make good on its commitment to become competitive.

MOST OTHER COMPANIES, unlike Studebaker, have a huge tooling bill for major changes and see no price cuts now. Some may make adjustments to get in line competitively. This may be done by throwing in optional equipment at no extra cost. The general theme will be more car for the same money.

## Tubeless Tires for All—Wire Wheels Fade

ALL MAKES OF CARS WILL HAVE TUBELESS TIRES as factory installed standard equipment item on 1955 models. Most small trucks also will be so equipped. Tubeless tires already are here as standard equipment on some cars.

ADOPTION OF TUBELESS TIRES across the board next year helps speed the demise of wire wheels, already withering on the vine. Trouble with air leaks around spoke ends makes wire wheels inadvisable with tubeless tires.

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KAISER MOTORS CONTINUES TO SHUCK SURPLUS facilities and tighten its belt to stay alive. So far the company has sold or put on the block the Willow Run plant and plants at Jackson and Dowagiac, Mich., and Maywood, Cal.

ADDITIONAL WORRY FOR KAISER is a new military unit similar to the jeep developed by Ford under Ordnance contract. K-W is apprehensive Ford may get the production job and eliminate the bread-and-butter line, the military jeep.

## Foreign Fords Produce Big Draw

PUBLIC INTEREST IN FOREIGN CARS was demonstrated at Ford Motor Company's international automobile show at the Rotunda in Dearborn, Michigan. It is believed to be the first one-company international exhibit ever held in this country.

THE SHOW ATTRACTED 4,000 PERSONS on one day alone during the first week it opened, despite inclement weather. This was almost double the average daily attendance at the Rotunda. Called "Ford Around the World," the exhibit features cars, trucks and tractors produced by Ford in five countries.

★ ★ ★

ALONG WITH INCREASED HORSEPOWERS coming on 1955 models, compression ratios also are generally heading upward. Highest we have heard of to date is 9 to 1.

## 1,500,000 Cadillacs

CADILLAC MOTOR DIVISION, which moved into the 10th position in sales of new cars during the first six months from the 13th spot it held in 1953, produced its 1.5 millionth automobile in Sept.

★ ★ ★

FORD MOTOR CO. during the first 8 months of this year produced 1,413,816 compared with 1,184,214 last year. Production of Ford cars alone in that period hit a postwar high of 985,972 against the previous postwar high of 834,303 established in 1950.

## Tires to Cost More in '55

TIRE PRICES ARE EXPECTED TO GO UP about 5 per cent by the first of next year. Higher costs of material and labor make the boost necessary, says E. J. Thomas, Goodyear president. Goodyear soon will devote more than half its total production to tubeless units and the percentage will increase rapidly.

★ ★ ★

NASH MOTOR DIVISION WILL INCREASE PRODUCTION of its Rambler automobiles from 270 units per day to 370 at the Kenosha, Wis., plant. The production boost will result in the addition of 800 workers Oct. 11, increasing total employment at the plant to 5,300.

# Washington Wire.....by Ray M. Stroupe

MERCHANDISE STOCKS HELD BY RETAILERS in the automotive field were shrinking last summer. In dollar terms, stocks were lower by $85 million on July 31 than they were a year earlier. They were also down from the June 30 figure by $63 million.

## 'Gas' Tax Swells Treasuries

STATE TREASURIES NETTED $2.2 billion in gasoline taxes last year. This amount made up a large part of the $6.5 billion the states received from all taxes on sales and gross receipts. Another $1 billion came from the levy on motor vehicles and driver's licenses.

★ ★ ★

NEED FOR VEHICLE MAINTENANCE WORK is growing. More than 58 million cars, trucks and buses are to be on the roads by the end of this year. This will mean a gain of nearly 2 million over registrations in 1953. Twenty states are to have over a million cars each.

## Repair Income Rises Over '48

PRIVATELY OWNED REPAIR SHOPS AND GARAGES had an income of $2.1 billion last year, the U. S. Commerce Dept. estimates. This intake, 35 per cent above the total for 1948, did not include receipts of auto dealers' repair departments.

## Tank Production Gets Boost

CADILLAC DIVISION'S CLEVELAND PLANT, which had its monthly tank production rate cut earlier this year, has been awarded a $35 million contract for M-42 tanks for the Army. Production on the vehicle is expected to start next June.

★ ★ ★

THE BUREAU OF PUBLIC ROADS forecasts that an all-time high number of motor vehicles will be registered in the country this year. It expects registrations of 58.129 million vehicles with California leading the tally with an anticipated 5.685 million units.

## Training Cars for Schools Pay Off

NEW CAR DEALERS PROVIDED an all-time high of 7,300 cars for driver training in U. S. high schools in the 1953-54 term. The total was greater by 900 cars than the number for the previous year. Traffic officials are convinced this dealer assistance pays off in the form of better safety records for young drivers.

★ ★ ★

RETAILERS WILL FIND THE NEW BUSINESS CENSUS forms they get next year easier to fill out, shorter than older forms. Entries can be made directly from records for 1954. Each branch of business is to get forms tailored to its special purposes.

## Velly Tough Blizness

FIGURES FROM THE ARMY in the Far East show how long it takes to rebuild military truck assemblies when each part is moved by hand. Here's the average job time for Japanese workers handling U. S. rebuilding work in one area: GMC engine, 71 manhr.; GMC transmission, 19 manhr.; Dodge front axle, 44 manhr.

★ ★ ★

FAIR ADVERTISING ALLOWANCES FOR RETAILERS are demanded in new Federal Trade Commission ruling. FTC says manufacturers or wholesalers who offer credit for advertising by some of their customers must tell competing customers terms by which they can get credit, too.

## Slowly But Surely

MILITARY WITHDRAWAL from commercial-type work moves slowly, but some progress is seen. For example, civilian firms hold contracts to repair 28 per cent of Army cars and trucks in this fiscal year. Three years ago, the figure was 22 per cent.

★ ★ ★

GENERAL MANUFACTURERS' SALES TAX would displease many retailers, but U. S. Treasury Dep't may ask for one next year. New money will be needed to run the government. However, retailers say that to let the customer know how much tax he is paying it would be fairer to make collections at retail level.

## Discount Clubs to Die

GOVERNMENT DISCOUNT CLUBS will taper off to a standstill by next January, business predicts, ending major competitive headache in many cities. The reason for hope is a Budget Bureau directive calling on department heads to see that clubs don't operate outside the law.

# Report to Our Readers

## The coin of opportunity

WE have no reason to believe that selling 1955 automobiles will be any less competitive than selling 1954 cars has been. The weaknesses of some dealers—bootlegging, profit slashing and misleading advertising—may continue.

Not that dealers wouldn't like to reform but they have taught the buying public to expect "the best deal." Such is the lowest form of profitable public relations.

Yet there are hopeful signs. N.A.D.A. is tenaciously determined to press its case on bootlegging as soon as the Congress reconvenes. State and local trade associations working closely with Better Business Bureaus have worked hard and with considerable success in stamping out bad advertising practices.

There is one important new element upcoming. This could change the picture immeasurably if each individual would accept it, grab hold and use it unfailingly. That is the mental attitude of the dealer and his salesmen as they see and learn all about the new cars they represent.

Virtually all 1955 models will be new in appearance, new in performance, new in all ways. Take it from there! Forget the harrowing experience of the 1953 inventories of the last model changeover.

You've got a new day coming. The day when the coin of opportunity will shine brightest.

## Worth repeating now

IN the Wisconsin Automotive Trades Association bulletin a short time ago there appeared a pithy paragraph or two on the subject of checking the sales efforts of your salesmen.

It was as if someone had condensed a sales manual into nine important sales-training fundamentals.

One sales expert says, the bulletin recounts, there are four steps in training men to sell. They are: Tell them; show them; let them do it, and check them frequently to make sure they are doing it.

The last step, some dealers say, is the most important. An aggressive, competitive salesman has to be trained, and then retrained, in the fundamentals of salesmanship. Salesmen who skip one or two of the basic steps of selling are likely to go right on forgetting them until they are corrected.

Check your own salesmen, Wisconsin Automotive Trades Association advises. Do they always take each of the following steps? Experience has shown that all of them are essential to peak performance.

1. Are your salesmen always courteous and interested in the prospect?
2. Do they show the cars on display?
3. Do they point out the car's features?
4. Do they get the prospect's name and address?
5. Do they offer a demonstration?
6. Do they inspect the trade-in before making an offer?
7. Do they make a constructive effort to sell extra features?
8. Do they ask prospects to keep thinking about your car and to call again?
9. Do they follow-up, either by phone or in person, every sales interview.

If you can get your top men as well as your low men to say "yes" and do "yes" on the beautiful new 1955's . . . your battle is more than half won.

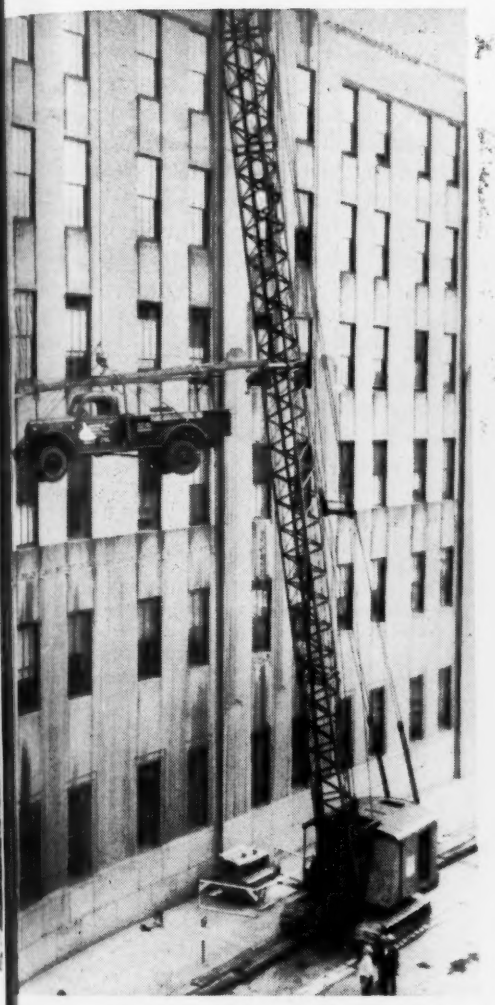
Frank P. Tighe

EDITOR

# Newscene

**TOUGH DRIVING WEATHER AHEAD! Fortunately, the scene above is just an unpleasant memory to most of us, but it still serves as a reminder for automotive servicemen to prepare their customers and themselves for the rigors of winter driving before ice and snow arrive.**

**WONDERFUL HOBBY, THESE ANTIQUE CARS! The one shown here is a midget 1906 Reo, built by the late Ransom E. Olds for display purposes. The mechanic on the job is Joyce Gamrath of Dearborn, Mich., who finds the car to be in almost perfect running condition.**



DOING IT THE EASY WAY! Workmen faced with the problem of carting away debris from the roof of the N. Y. Telephone Co. building hit upon this solution to lighten their labor. The crane lifts the truck six stories where it is loaded and lowered to the street level.

A TRAGIC ACCIDENT took the life of Clay Smith, 39, during the Ted Horn Memorial Race at Duquoin, Ill. Smith (below left) was mechanic for Chuck Stevenson (right), highly respected among the Indianapolis "500" racing fraternity, and head mechanic on the Pan American Road Race Lincolns.

TRAFFIC TRAINING FOR FIVE-YEAR OLDS in El Paso, Texas is a program that might well be imitated throughout the country. Children learn the meaning and importance of signs, rules and the many situations which can arise in real traffic. The program is conducted by the Police Department.

**TOP WINNER in the senior division of the Fisher Body Craftsman's Guild model car competition was Gary Graham (left). This sports car won a $4,000 scholarship for him. James C. Fry (right) took the honors in the junior division. All champs were saluted by C. F. Kettering of GM.**

far down the list by the lighter hues and two-tones. For example, black Chrysler lines accounted for only about 6 per cent of total production this year against 8 per cent last year. Black at Ford is down anywhere from 2 per cent to 6 per cent in the various series compared to 1953. The blue-gray range of colors at Chrysler account for about 40 per cent of total production, while blue and green seem to be the most popular in Ford. Light green is also second favor in Chrysler cars.

**MONROE L. NUTE, a Chrysler dealer in Kennett Square, Pa., is the newly elected international president of the International Association of Lions Clubs.**

## "Old Timer's Club" to Meet in Illinois

The first annual meeting of Central Illinois' "Old Timers' Club" will be held at the Springfield Auto Supply Co. on Thursday, Nov. 11, 1954, from 2 to 9 P. M. Many prizes will be given away at this time. While everyone in the automotive trade is welcome to attend this meeting, membership is restricted to those who were in the industry November 11, 1934, or earlier.

## New Appointments Made for MoPar

Appointments of Jack Sweedyk as Advertising Manager and T. P. Wheelwright as Sales Promotion Manager of Chrysler Corporation's MoPar Motor Parts Division were announced recently.

Mr. Sweedyk has served as assistant advertising manager of MoPar since 1951. During the preceding 17 years, he held various administrative positions in the advertising and sales promotion department of the Chrysler parts division.

Mr. Wheelwright joined the MoPar Division in 1952 as a district parts representative in Salt Lake City. In January, 1953, he was transferred to MoPar's Detroit offices, and in October, 1953, was appointed assistant sales promotion manager.

## Popularity of Black Fades from Scene

The all-black car is slowly fading out. The color is being pushed

### 1954 RETAIL CAR SALES BY PRICE GROUPS*

**Number of Cars**

| | July | | | | Seven Months | | | |
|---|---|---|---|---|---|---|---|---|
| | 1954 | | 1953 | | 1954 | | 1953 | |
| Price Group | Units† | % of Total | Units† | % of Total | Units† | % of Total | Units† | % of Total |
| Under $2,000 | 279,479 | 59.23 | 294,834 | 55.51 | 1,958,798 | 59.78 | 1,831,256 | 53.96 |
| $2,001 to $2,500 | 123,281 | 26.13 | 151,920 | 28.60 | 833,402 | 25.43 | 965,207 | 28.44 |
| $2,501 to $3,500 | 51,290 | 10.87 | 63,180 | 11.90 | 352,427 | 10.76 | 454,965 | 13.40 |
| Over $3,500 | 17,786 | 3.77 | 21,193 | 3.99 | 132,129 | 4.03 | 142,621 | 4.20 |
| Total | 471,836 | 100.00 | 531,127 | 100.00 | 3,276,756 | 100.00 | 3,394,049 | 100.00 |

**Dollar Volume of Sales***

| | July | | | | Seven Months | | | |
|---|---|---|---|---|---|---|---|---|
| | 1954 | | 1953 | | 1954 | | 1953 | |
| Price Group | Dollars | % of Total | Dollars | % of Total | Dollars | % of Total | Dollars | % of Total |
| Under $2,000 | $ 509,289,100 | 50.87 | $ 524,910,127 | 47.06 | $3,567,634,902 | 51.35 | $3,274,885,154 | 45.40 |
| $2,001 to $2,500 | 282,897,895 | 28.25 | 338,464,185 | 30.35 | 1,906,838,226 | 27.45 | 2,154,005,154 | 29.86 |
| $2,501 to $3,500 | 139,807,102 | 13.96 | 173,219,825 | 15.53 | 962,604,829 | 13.86 | 1,248,296,074 | 17.31 |
| Over $3,500 | 69,275,573 | 6.92 | 78,716,238 | 7.06 | 510,108,899 | 7.34 | 536,146,318 | 7.43 |
| Total | $1,001,259,670 | 100.00 | $1,115,310,375 | 100.00 | $6,947,186,856 | 100.00 | $7,213,332,700 | 100.00 |

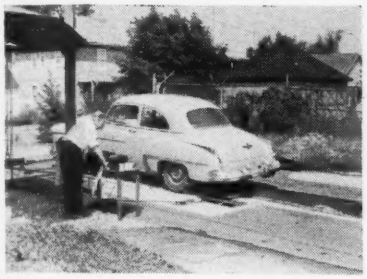
*—Calculated on basis of new car registrations, as reported by R. L. Polk & Co., in conjunction with advertised delivered price at factory of four door sedan or equivalent model. Does not include transportation charges or extra equipment.
†—New registrations of American made cars only. Does not include imported foreign cars.

## Factory Training Is Gaining Momentum

Car factory training of mechanics continues to grow. Ford last year trained more mechanics in the first six months than it did in all of 1950. During the first half of 1954 Chrysler trained 18,712 mechanics compared with 32,198 for the entire year of 1953.

## Ice Machine For Testing Car Chains

New equipment has been installed at the American Chain & Cable proving grounds in York,



Pa. Conceived by an American Chain research engineer, the apparatus was built to test the stop-and-go effectiveness of Weed tire chains. The company is breaking in the machine in observance of the 50th anniversary of the chains invented by Col. Harry D. Weed.

**"IT'S A PLEASURE to present this pin—." H. S. Vance, left, Studebaker president, seems to be saying this as he presents a 10 year service pin to Paul M. Clark, vice-president of industrial relations.**

**THE BIG WIND couldn't put him out of business. Most Mass. Coast stations were knocked out by the hurricane but this operator used a power mower to keep pumping.**

## Mechanics Society Votes to Join CIO

For 21 years since it was organized the Mechanics Education Society of America has always handled its own union problems. Last month (Sept.) it decided to go under the wing of the CIO.

The 52,000-member organization voted in New York to join Walter Reuther's union to stop competing for industrial shops. Under present plans, the MESA will be guaranteed full autonomy by the CIO. It will be given a charter as soon as a few minor problems concerning areas of jurisdiction are ironed out.

## Waterfall New Pres. Chrysler Parts Div.

Thornton E. Waterfall has been elected President of the Parts Division, Chrysler Corp.

Mr. Waterfall has been Vice-President and General Manager of the Parts Division since December, 1948, and from 1942 until 1948 he served as Operating Manager for MoPar. In his new capacity, he succeeds Charles L. Jacobsen, who recently was elected vice-president in charge of sales for Chrysler Corp.

# Engineering Highlights

**by Joseph Geschelin**
**Engineering Editor**

FOR 1955 Studebaker is grooming a line of President, Commander, and Champion cars, continuing the characteristic styling introduced last year. The President model designation marks revival of an old name discontinued at the outbreak of WW II, replaces the familiar Land Cruiser, now dis-

**This view of the President State Hardtop model shows the new grille styling and chrome trim treatment.**

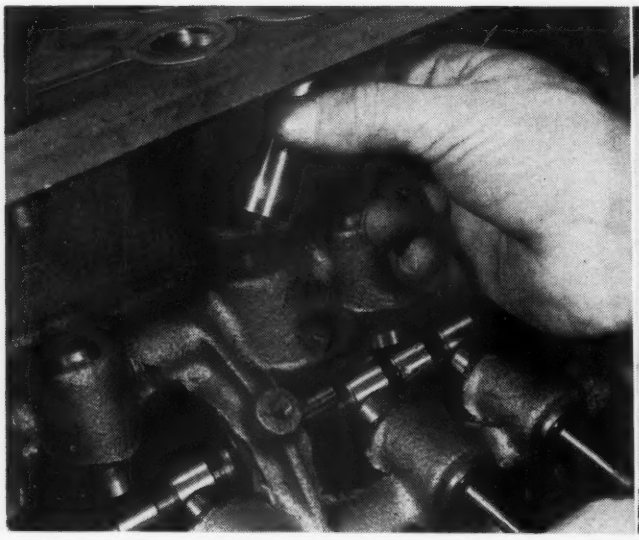
continued. From a styling standpoint the major change is found in new front and rear bumper treatment, a new grille design, and modified body molding. Interiors and instrument panels are entirely new.

Perhaps of greatest interest is the Studebaker engine story: a family of two V-8's, rated 175-hp for the President, 140-hp for the Commander; and a

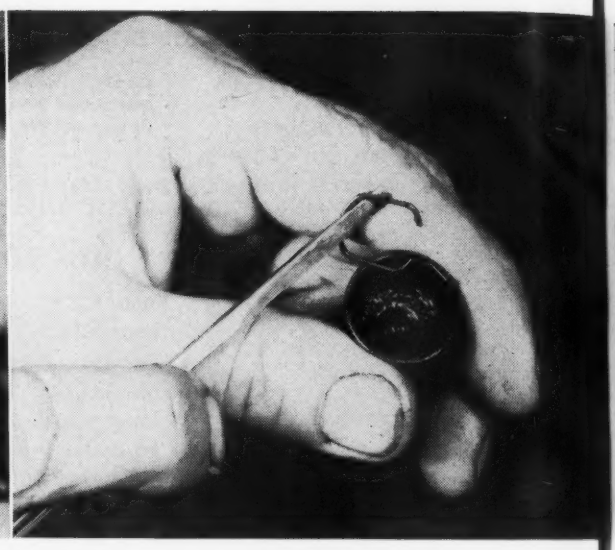
(*Continued on page* 110)

*How To Do It*

# Removing The Tick From

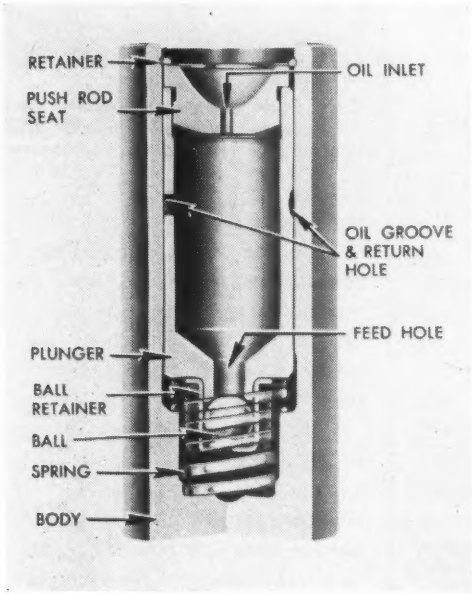


Lifting lifter out of cylinder block.



Removing barrel retainer snap ring.

Cutaway of Buick lifter with each part named.

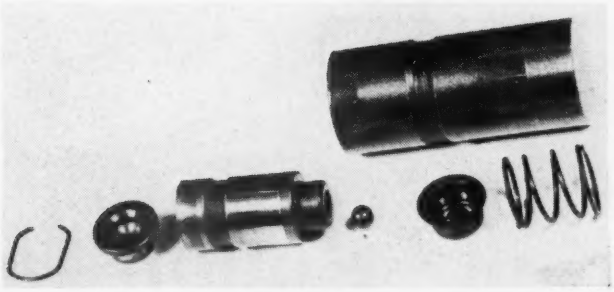



by Jack Montgomery, Technical Editor

**If the best grades of oil and filters are used and changed regularly, hydraulic lifters should stay quiet. For noisy ones, follow the remedies given here**

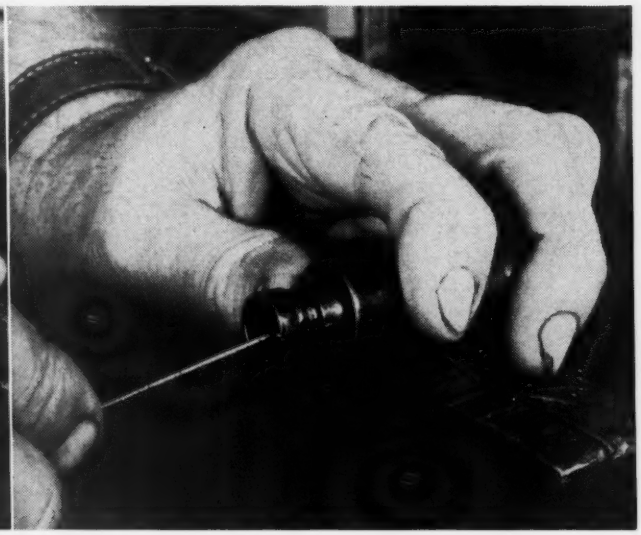
NORMALLY hydraulic lifters require very little service other than using quality engine oil and replacing the oil filter periodically. If noisy lifters are suspected, the faulty ones can be located by removing the valve covers on overhead valve engines. Then by using a piece of rubber garden hose about

# Lifters



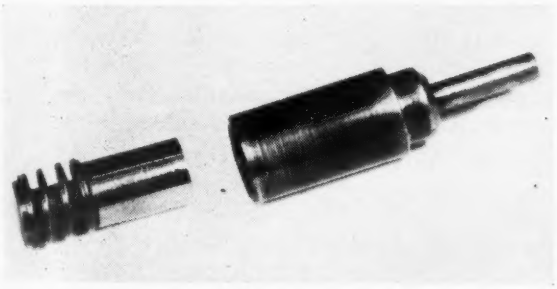
**Exploded view of lifter parts cleaned and ready for reassembly.**

**Using a vise to free the piston**



**Using a piece of wire to pull out the barrel.**

**View of lifter used in L head Cadillacs. These parts must be replaced as an assembly.**



4 ft. long, with one end of the hose near the end of the valve and the other end of the hose to the ear, the sound is localized making it easy to single out the noisy lifter.

A hard rapping noise is usually caused by the plunger tightening up in the bore of the lifter body due to varnish and foreign materials to such an extent that the return spring can no longer push the plunger back up to working position. A moderate rapping noise can be the result of high leak down rate or a leaky check valve seat.

When noise exists in one or more lifters, all the units should be removed from the engine, cleaned in a suitable solvent and disassembled. Note: Place lifters in a rack to avoid mixing up parts. Check all parts for pits and wear and reassemble. If any parts show wear replace the complete unit. Plungers are not interchangeable since they are selective fit at the factory.

### Servicing Lifters

Dip the unit in a good solvent to remove excess engine oil and soften varnish deposits.

(*Continued on page* 74)

U. C. RECONDITIONING

# From "Rough to 'Puff" In Six Easy Lessons

**Plymouth now operates clinics which visit dealers throughout the country demonstrating used car reconditioning techniques. Dealers find that cars which receive the "treatment" move faster, make more satisfied customers and improve profits**

CAR dealers are discovering that they can get fairer prices for used cars—and reduce reconditioning costs as well—by using up-to-date methods in appearance reconditioning.

That is the satisfying conclusion reached by Paul M. Ruef, Plymouth National Used Car Manager, after a survey of the results of the first six months' operation of Plymouth's fleet of Used Car Reconditioning Clinics.

Plymouth put the clinics on the road last March. The purpose was to demonstrate, and this has been done for more than 1000 dealerships. Plymouth is now moving the clinics into new areas.

"Without exception, dealers have benefited from this project," Ruef says. "In many cases, they have realized immediate cash benefits. For example one dealer wrote me about a Plymouth that had been on his lot for 19 days with an asking price of $695. The car was used for the reconditioning demonstration. On the very next day, it sold for $850.

Ruef's fan mail includes many letters from leaders who reported cost cutting, as a result of the demonstrations. Dealers are finding that it's often less costly to restore interior appearance than to try to "cover up" with seat covers and floor mats.

One of the most dramatic rehabilitation jobs demonstrated is the cleaning of the headlining. Many dealers have shied away from headlining cleaning because, where they have tried it, they have found that any use of water causes shrinkage which pulls the headlining away from the edges. Others have turned the job over to regular dry cleaning establishments—but found this exceedingly expensive.

In the Plymouth technique, the headlining is first given a good vacuum cleaning. It is imperative to get the dirt out. Then the headlining is cleaned with a heavy foam formed by mixing eight ounces of upholstery cleaner with one and one-half gallons of water. This mixture is whipped into a heavy foam with a wool

(*Continued on page* 86)

Fig. 1. First step in "cleaning up" a used car is to wash down the engine with solvent and/or steam.

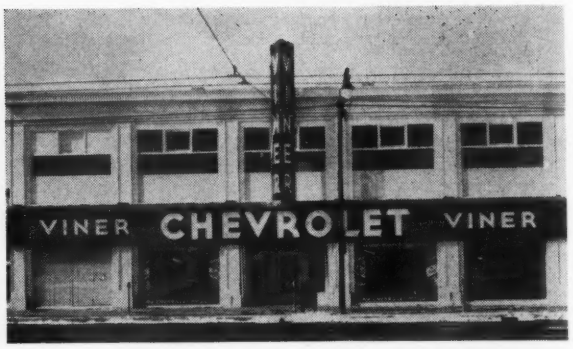
Fig. 4. Then the rubber-painted spare tire is secured in the trunk, which now has a "like new" appearance.

Fig. 2. Trunk and interior are vacuumed. Then floor covering is repaired or cemented down where loose. Then (Fig. 3) sides of the trunk are sprayed with flock. An instructor explains this process.

Fig. 5. Headlining is vacuumed and then cleaned with upholstery cleaner. Finally, nicks and scratches are touched up and the car is polished (Fig. 6.).

## *Good Shopkeeping*

**The inherent beauty and utility of plate glass made it an ideal "theme" for the remodeling of Viner Chevrolet's building in Denver, Colorado.**




# How Viner Chevrolet Designed Around Glass

**View of the Viner sales room and office before modernization (top) contrasts sharply with the modernized building (above). Wide plate glass windows provide an unobstructed view of interior displays.**

**Installation of heat tempered glass doors with special hinges provide easy access to the building.**

GLASS was given "top billing" during the recent remodeling of Viner Chevrolet Company, long-established Chevrolet dealership of Denver, Colorado.

In collaborating with prime contractors, Ted Viner, head of the firm, laid full stress on the fact that the new building would have to be of a spectacular nature, as a help in offsetting the generally "slow" sales conditions which have affected the Denver market as in other sections of the country. Therefore, during the moderni-

(*Continued on page* 80)

**Good Management**

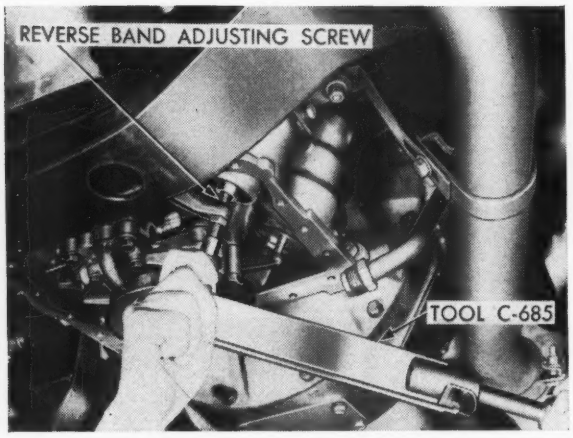
# ORGANIZATION Means Good Teamwork

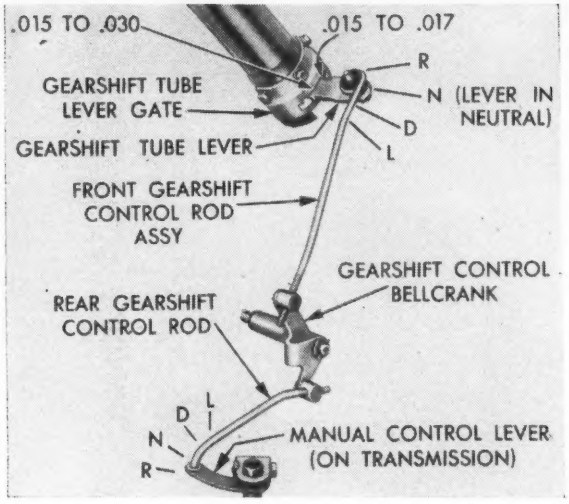
**Designation and execution of responsibilities is essential to efficiency in any size firm. This first in a series of articles points out ways to streamline dealer or shop organization**

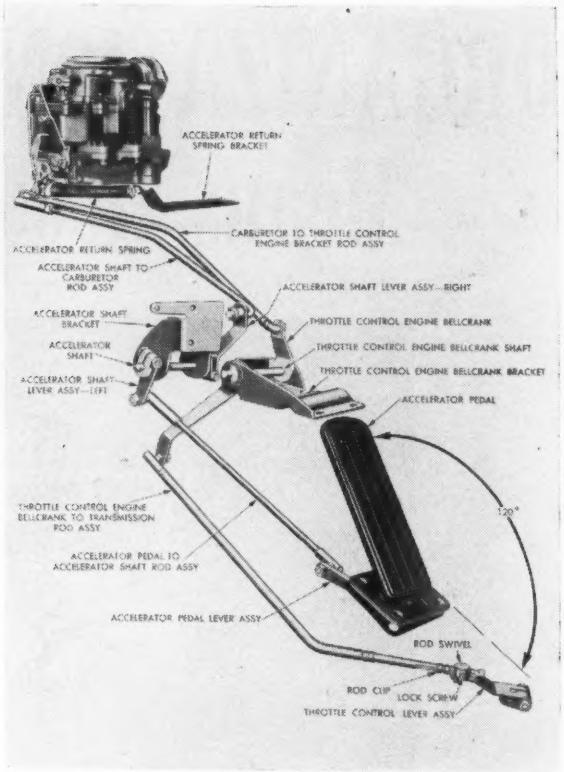
EXCEPT for those few handling "cost is no object" brands, low cost operation is a favorite selling point of automobile dealers. Ironically, the *high* cost of operating their own businesses tends to be a favorite topic of conversation whenever agency operators get together. Add a repair shop man to the crowd and he'll add his thoughts about labor costs, parts inventory losses, price increases in supplies and all the other problems that make for something far less than harmonious agreement on how easy it is to produce profits in the automotive business.

The low cost of operating the vehicles we sell is primarily the result of mechanical perfection—smooth operation that eliminates wasted energy and avoids friction losses. Logically enough, that same formula—the elimination of wasted energy and the avoidance of friction losses—is the most important need to reduce operating costs and increase profits—in the automotive field or, for

*Continued on page* 116




**Above left. Special tool in action for adjusting rear reverse band.**

**Above. View of related parts on throttle linkage.**

**Left. View of manual control linkage showing the proper clearance at the gearshift tube lever gate.**

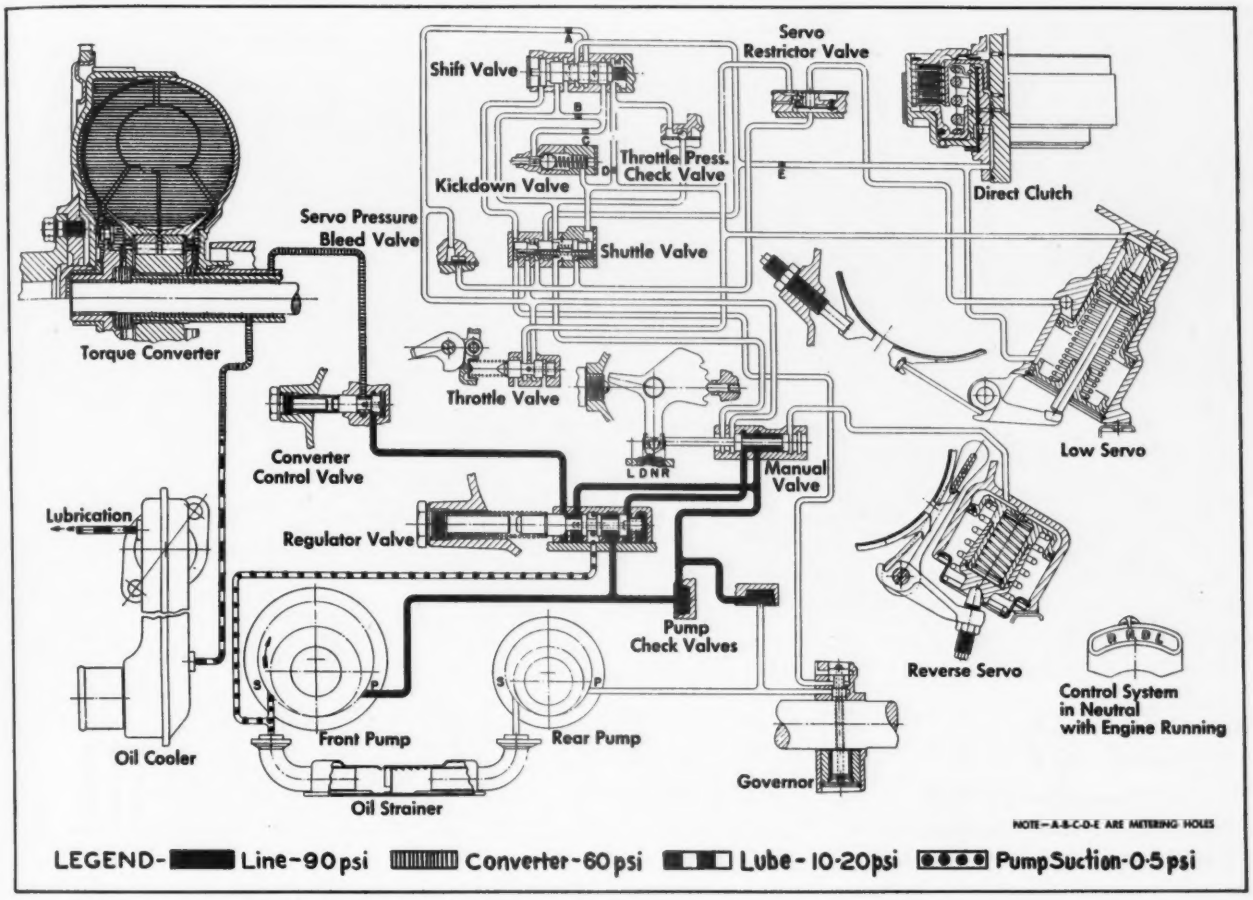
# *Everyday Service On*

# Chrysler's Powerflite

POWERFLITE, the new fully automatic transmission used on Chrysler, De Soto, Dodge and Plymouth cars, is composed of a fluid torque converter and an hydraulically controlled gear train. Minor adjustments and a few service items will be covered in this article.

### Adjusting Manual Control

The manual control lever is the bottom one of the two levers on the left side of the transmission case. When the lever is turned full back, counterclockwise, gears are in reverse. The next detent forward, clockwise, is neutral. The next




**Schematic view of oil flow, transmission in neutral.**

**With all Chrysler-made cars offering Powerflite as the optional automatic transmission, every shop should know proper service methods on these units**

detent is drive and the last detent is low.

Place the manual control lever in the neutral detent. Check that the bell crank on the frame has its lower arm pointing down and back while the upper arm is at an angle of 45 degrees with the frame. To get this angle, disconnect the two rods at the bell crank with shift in neutral, adjust the length of the rod lower to hold the bell crank so that its upper arm is at 45 degrees with the frame and reconnect the lower rod to the bell crank.

Move the hand lever on the steering column to the neutral position and then at the bottom of the steering column check the position of the tongue of the lever in the locating gate. This gate is held to the column by screws in slots so that the gate can be moved. Adjust the gate so that there is .015 to .030 inch clearance between the lever and the gate measured parallel with the column and .015 to .017 inch clearance between the gate and the lever measured perpendicular to the column. When the gate is correctly set, adjust the upper rod at the bell crank to fit easily and attach it. Move the hand control lever through the four positions and check that the pointer and the marks on the dial line up. If they do not, it will be necessary to run through the adjustment procedure again to avoid bending the pointer.

(*Continued on page* 68)

"I turned out to miss one of them damned MG's and beached her. Serves me right for getting in the way," Pop growled.

# Pop Lowers the Boom

**It's a story with a happy ending—but Pop shudders to think what might have been the results of Tommy's carelessness in the shop and his own curiosity on the road**

"POP," Tommy called, "I got a favor to ask you."

"That's usual," the old man muttered without looking up from his order sheet. "What do you want now? If it's another raise you might just as well . . ."

"No, Pop. Now don't get excited. Your neck starts to bristle like an alley cat every time you think of your pocket book. I want to use some of the space in this garage for a few days."

Pop O'Neill looked up suddenly with that did-I-hear-right expression he is noted for. "What's this? You're taking up more floor space right now than you're worth."

The insult failed, for the kid was too involved in his own problems. "You see, Pop, the Sports Car Club is having a race here in Ketchum County this week end, and some of the boys want to rent storage space for a couple of nights. I'm secretary, and I thought it would be a good gesture if we . . ."

"Wait a minute son. *You're* secretary. I'm still just another shop owner. Sounds to me like you've stuck your neck out — promising my garage for putting up them damned midgets. Why, where'd you put them?"

Tommy saw his lead and he took it. "I've got it all figured out. And I think I could get five of them in here—after work. The boys will appreciate it."

"But will they *pay* for it?"

Tommy laughed. "In good will, Pop. Besides they might buy some gasoline . . ."

"Now quit insinuatin' that I'm mercenary. I'm just trying to make a living. And I hain't

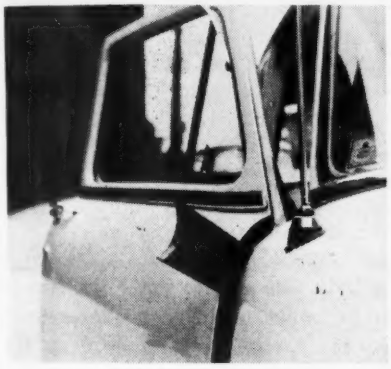
(*Continued on page* 76)

# New PRODUCTS SHOW WINDOW

**FOR FURTHER INFORMATION USE POSTCARD FACING THIS PAGE**

### 458. Body Tools

**Penn Fibre & Specialty Co.:** Made of vulcanized fibre, this set of body shop tools is designed to



do the job without disturbing a car's finish, according to the maker. The tools can be used for body straightening and trim aligning and are contoured to fit.

### 459. Testing Knit

**Fisher Products Corp.:** Now available is the MoTest recording compression tester kit in a hardwood, fitted instrument case. The company states that in addition to tailored pockets for various components, there are four compartments for storage of recording charts. The tester itself indicates the compression and records the reading on charts.

### 460. Brake Warning Light

**Reline-O-Lite Co.:** Added safety for the driver is the main feature of Reline-O-Lite, according to its maker. When the car's brakes reach the point where they need relining this device flashes a warning light on the dash. Installation is said to take 20 minutes. A further claim is that this accessory will prevent damage to brake drums if heeded.

### 461. Gear Puller

Kelly Precision Machine Co.: A redesigned gear puller for pulling both aluminum and fiber timing gears in all models of Chevrolet passenger cars and trucks without removing the camshaft from the engine is announced by this maker. Known as the new Cobb gear puller, this tool operates with aluminum and both small and large-hole fiber gears.

### 462. Glass Polisher

Sommer & Maca Co.: A portable tool said to be capable of removing light surface scratches from automobile windshields has been introduced by this company. It is said that with this tool, which weighs only 7 lbs., it is possible to work with the windshield in the car. The polishing head is of machined aluminum with a replaceable felt wheel attached.

### 463. Fabric Restorer

Nu-Color Corp. of Amer.: A product that is said to put color

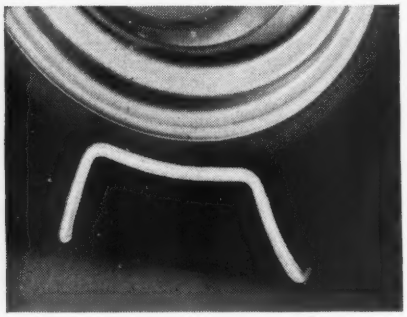
back into car interiors and tops has been marketed by this maker. Fabspray is a plastic, resin-base mineral pigment that is said to cover fabrics in a color-mist without stiffening texture or blotting out patterns. It colors and penetrates the fabric surface without clogging pores, the company claims.

It is further claimed that it

covers stains, and so on (according to color selection), and protects against wear, water and sun fading and is available in 14 colors.

### 464. Mud and Snow Cleats

**Campbell Chain Co.: This company now offers a device called "Traction Klips."** These snow, ice



and mud trouble-savers can be put on or taken off the wheels in 10 seconds. The "Klips" are curved metal loops of spring steel, designed to fit around the tire tread and sidewall, and will not damage the tire, the maker says. According to the firm, the primary purpose of the device is to get a car out of ruts, away from icy gutters, or up slippery, snowy hills.

### 465. Windshield Seal

**Super Seal Prod. Co.: It is** claimed that Super Seal will seal windshields while they are wet. The entire job on any window can be done in less than three minutes. The seal is said to be a rubber preservative which remains pliable and elastic, and will not dry out. Since it contains no solvents, it won't shrink or become cakey. That it is not affected by changes in temperature or humidity is a final claim made by the company.

### 466. Top Closing Device

**Weatherguard Div.: An electronic device that automatically closes convertible tops at the first** drop of rain is now available through this company. Called the Weatherguard, the unit has a small grid, measuring 2x3 inches, which is attached either to the left rear fender or the sun visor. Comes rain, the device goes to work on the top's motor, causing it to operate and close the top automatically. It operates only when the ignition is off, according to the company.

### 467. Road Sander

**Automotive Sandtrax, Inc.: This** exhaust powered road sander for vehicles shoots a spray of sand under the rear wheels to provide traction on slippery roads. Sandtrax consists of a sand hopper, a control valve which connects electrically to a push button on the steering column, and two flexible metal spray arms. It is actuated by a simultaneous light pressure on push button mounted on the steering column and accelerator.

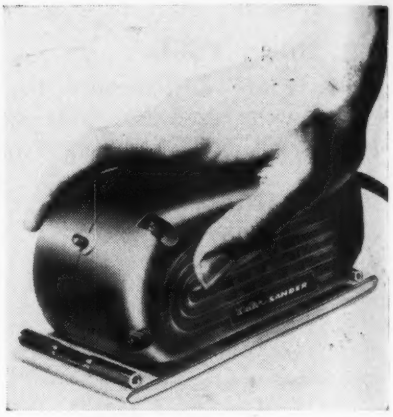
### 468. Valve Seat Kits

**Black & Decker Mfg. Co.: Four** Vibro-Centric valve seat reconditioning kits have been introduced by this maker. The kits include an assortment of stones and pilots to

cover popular engine models. Two kits, consisting of a general purpose kit and one for shops specializing in valve reconditioning, carry all the equipment necessary for a wide range of jobs. Two basic kits enable service shops to add extra stones and pilots needed. The kit boxes are made of oak and have three drawers for holding additional stones and pilots. The company says that the dressing stand can be stored completely assembled in the boxes.

### 469. Power Sander

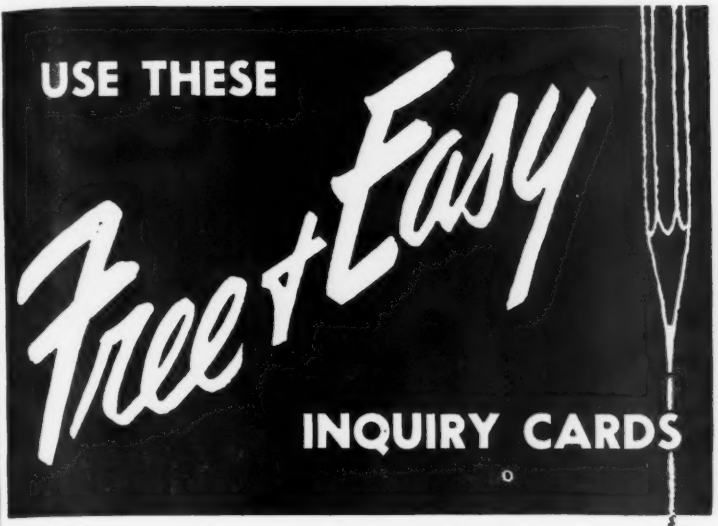
**Weller Electric Corp.: This company's latest vibrator-type sander**



features 25 sq. in. of sanding area with a low design that permits it to be operated in restricted places. It is further claimed that the sander can be used for various other jobs including waxing or polishing. The unit has a 60 cycle motor and an 8 foot power cord.

### 470. Electrical Parts Brochure

**Echlin Mfg. Co.: A four color** brochure, titled "This . . . Mr. Morgan, is an Echlin Part," is being distributed by this manufacturer. The colorful 16 page presentation is offered as a sales aid highlighting the principal features of ignition parts in the Echlin line. Special sections are devoted to ignition contacts, waterproof condensers, voltage regulators, and ignition coils. In addition, the brochure describes and illustrates in four colors the merchandising aids offered through the Echlin Visumatic program for dealers.




## The Inquiry Card—How It Works

EACH month Motor Age's New Products Show Window describes dozens of fast-moving items and money and time saving equipment from the country's leading manufacturers of dependable automotive products.

When you want more free information on any of these products, simply mark a circle around the same number on the postcard as appears under the item described. You may circle as many items as you wish. Use either or both cards. Separate information will be sent to you on each item. Be sure to give your full name and address.

Postcard valid for 90 days only.

10/54

**Frank P. Tighe, EDITOR MOTOR AGE**
**P. O. Box 76, Village Station, N. Y. 14, N. Y.**

Please send me further information on the New Products, the code numbers of which I have circled below

458. Body Tools
459. Testing Kit
460. Brake Warning Light
461. Gear Puller
462. Glass Polisher
463. Fabric Restorer
464. Mud and Snow Cleats
465. Windshield Seal
466. Top Closing Device
467. Road Sander
468. Valve Seat Kits
469. Power Sander
470. Electrical Parts Brochure
471. Ignition Catalog
472. Thermostat Bulletin
473. Part Booklet
474. Intercom Booklet
475. Power Brake Catalog
476. Display Material Catalog
477. Radiator Parts Catalog
478. Welding Catalog
479. Water Flow Chart
480. Bearing Manual
481. Power Steering Wall Chart
482. Steam Cleaner
483. Oil Filter Line
484. Battery Cap
485. Tachometer Switch
486. Battery Charger
487. Mower Attachment
488. Shelving Device
489. Valve Gapper
490. Plastic Drip Rail
491. Cylinder Hone
492. Valve Compressor
493. Power Cleaner
494. Brake Cup Expander
495. Gasket Sealer
496. White Sidewall Unit
497. Body Repair Kit
498. Safety Buzzer
499. Bumper Jack
500. Feeler Gage
501. Fan Belt Tool
502. Joint Seal
503. Mud-Snow Tire
504. Transmission Jack
505. Welding Method
506. Terminal Dispenser
507. Battery Chargers

Your Name .....Your Title .....

Your Company .....

Jobber .....Independent .....Dealer .....

Address .....(Street & No.) .....(City) .....(Zone) .....(State)

# New Literature

### 471. Ignition Catalog

**Tasco Products, Inc.:** This company announces the release of its new ignition catalog.

The book is divided into Car Guide and Buyers' Guide sections; side-by-side layout of part numbers and part illustrations for quick identification; well designed pages relieve the monotony of tabular matter.

### 472. Thermostat Bulletin

**Flexonics Corp.:** A new three-color bulletin covering its line of thermostats has just been released by this corporation. The bulletin describes the selling features of Flexon thermostats and lists the thermostats to be used with all makes and models of automobiles, trucks, tractors, and engines. The listings are broken down by both car and thermostat models.

*(Continued on next page)*

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476. Display Material Catalog
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# New Products . . . . .

Continued from Page 53

### 473. Parts Booklet

**Weiand Power and Racing Equipment:** Heads, manifolds, adaptors, air cleaners and many other speed and power parts are displayed in this company's catalog. The book is illustrated and each item is described fully. There is also a rated compression ratio chart and other useful information included. Parts are for Ford V-8-60, Chevrolet, Cadillac, Studebaker, Oldsmobile and Mercury.

### 474. Intercom Booklet

**Executone, Inc.:** The 8-page booklet, prepared by this company, describes communication and "control" systems for typical service departments. It shows how such systems can raise service absorption within a dealership. Also outlined are "administrative" intercom systems for personnel locating and coordination of all areas of dealership. In addition, a section of the booklet is devoted to an explanation of service dispatching or tower-controlled operation.

### 475. Power Brake Catalog

**Bendix Products:** A catalog covering up-to-the-minute power brake information for all passenger cars and trucks, as well as a special section for tractor-trailer equipment, has been released by this company. Complete information with regard to new installations and repair parts can be quickly found, thus making it an excellent selling tool for the salesman and counterman.

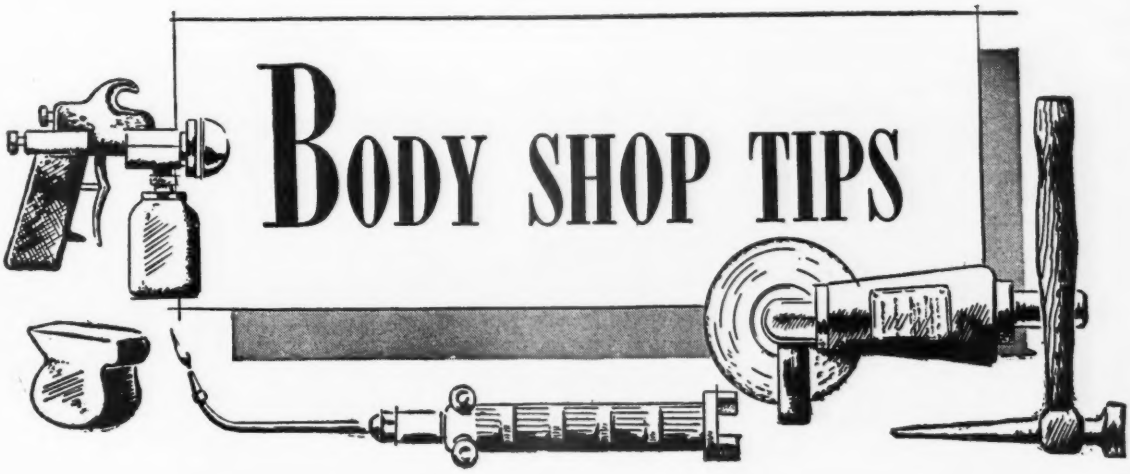
### 476. Display Material Catalog

**Pratt Poster Co.:** A catalog describing and illustrating this firm's ready-to-install service station and garage display material made of all-weather paper, cloth and plastic, is now available. Items included are: banners, flag pennants, aluminum spiral pennants, posters, letter-banners, and fluorescent displays. In the catalog are ideas and suggestions for staging station openings, birthday sales, new product promotions, holiday and other seasonal sales programs.

### 477. Radiator Parts Catalog

**Inland Manufacturing Co.:** This company's 1954 parts, supplies and service tool catalog is now available. The 90-page catalog covers every part, tool or supply item connected with the repair of auto radiators. Over fifteen hundred separate items are listed and shown throughout the catalog.

(*Continued on page* 90)




**BODY SHOP TIPS**

**are worth**

**$7.50**

**If you've developed an idea that has helped you to do body and fender work or painting better or faster, it may be worth money. Jot down the idea and, if necessary, make a rough sketch. Sometimes a snapshot will help. Just make the description of your BODY SHOP TIP clear, and if it is used, you'll receive a check for $7.50.**

## Method Saves Labor in Replacing Grill Bar

In replacing the center grill bar on 1949-50 Chevrolets, I find that if I cut the damaged bar next to the grill panel, with aviation snips, the rivets can then be cut off and the bar replaced with a minimum of labor. *Don W. Snell, Elwood Motor Supply, Gordon, Nebraska.*

## Cuts Flap to Repair Rear Fender of Convertible

My 1949 Chevrolet had a bad dent in the rear fender. After taking out the upholstery I found that the top lifting mechanism and support arms were in the way. However the stone shield nuts were accessible. I took that off and cut a 4-inch flap large enough to get my hand through to knock out the dent. I welded the piece back and replaced the shield. *Fred Hunt, Staples Body Shop, 577 Market St., Rockland, Mass.*

## Single Edged Blade Used to Apply Glaze

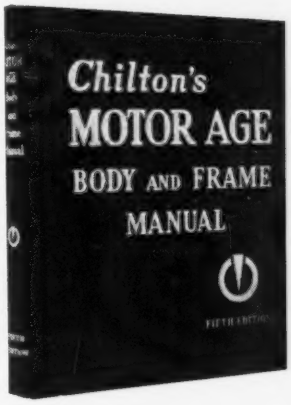
When applying spot putty (glaze) I find that a single edged razor blade will do the job more evenly and quickly. Other things I've tried, such as a rubber, seem to follow the contours too much. *Persyns Collision & Alignment Shop, Throop St., Palmyra, New York.*

## Method Found to Align Ford Fenders to Cowl

I have found that whenever Ford models, 1949 through 1951, have front end collisions it is very hard to get the fenders to fit tight by the upper cowl. Here's the method I have found successful in accomplishing this. Drill a ¼-inch hole through the fender and body. Then make the hole in the fender large enough to allow the head of a bolt to pass through to the reinforcement. After the fender is securely drawn tight against the cowl, weld the fender hole shut. Then lead and refinish. This makes it permanent. *Ray F. Lindquist, Willmar, Minn.*

## Way to Get Power Seat Ratchets Back in Place

We recently overhauled a four way power unit on a 1954 Oldsmobile and found that the seat had gone too far back. As a result, the ratchet was out of place. We have found a way to quickly correct this problem. One man will get in the rear seat behind the front seat and place a foot on each corner of the front seat, another man will push the button forward and the front seat will go right back in place. *Cecil Wills, Fryman Motor Sales, 108 E. High St., Oxford, Ohio.*




**Other valuable information of the type presented each month in The BODY SHOP is available in Chilton's Motor Age Body and Frame Manual.**

MOTOR AGE BODY SHOP

The mechanism described here is available as

# Servicing Electrical Window

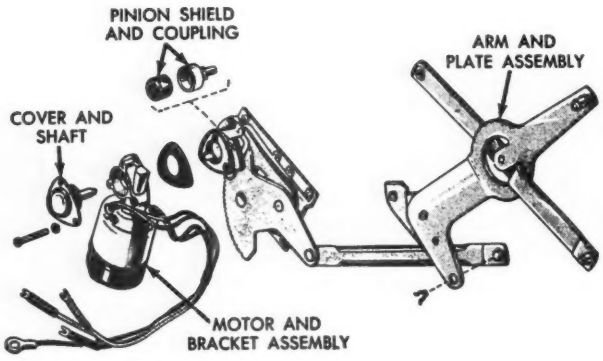



Fig. 1. Components of the front door electric window regulator, Type A.

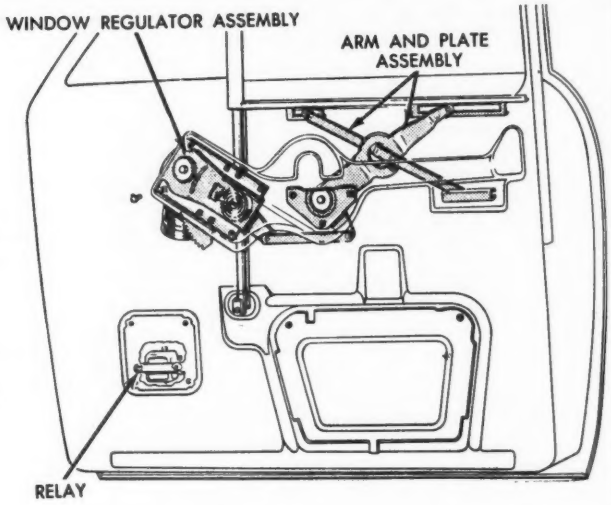



Fig. 2. Front door window regulator, Type A, shown installed in the door.

Fig. 4. Installation of the front door window regulator, Type B.

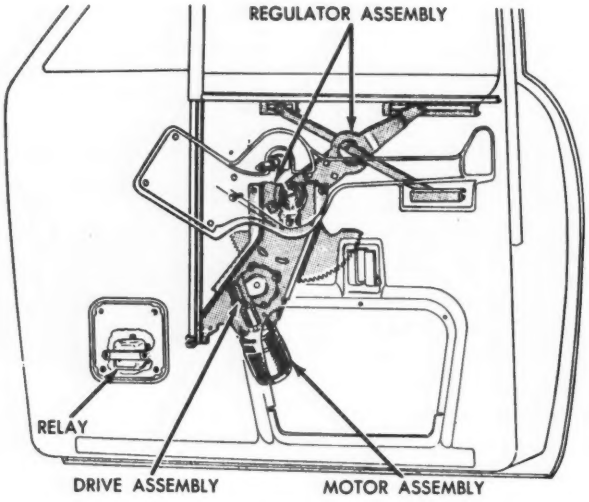
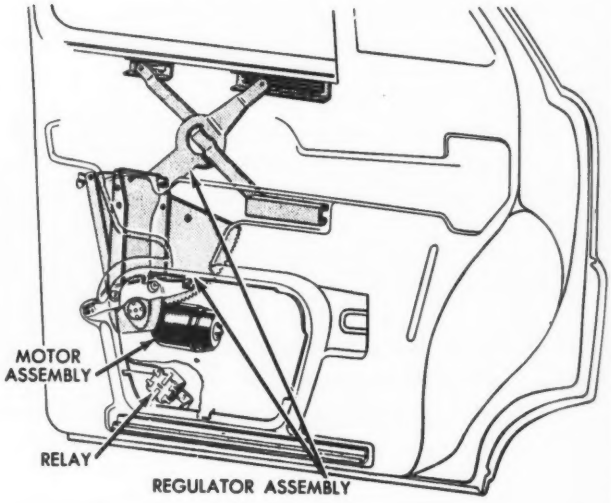



Fig. 5. Rear door regulator assembly, Type A, shown installed in the door.



as an option on Ford, Lincoln and Mercury

# Regulators

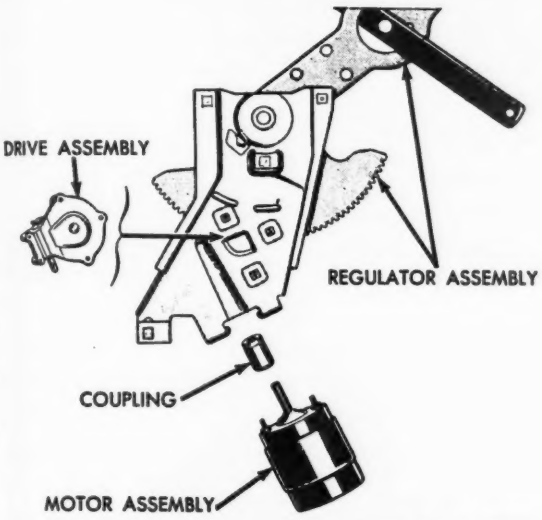



**Fig. 3. Components of the front door electric window regulator, Type B.**

THERE are two types of electric window regulator mechanisms in use on 1954 Ford, Lincoln and Mercury cars. Type A, shown in figure 1, is interchangeable with type B shown in figure 3. The installation procedure, however, is different.

### Operation of the Mechanism

An electric motor coupled with a drive assembly actuates the arm and plate assembly to operate the window lifts in this mechanism. The four component parts making up the basic window regulator circuit, are a 30 ampere circuit breaker, relay, door switch and motor. The relay serves as a double pole, double throw switch and is used to direct current to both the armature and field coil by actuating alternate sets of points within the relay. The direction of current flow in the field coil may be changed. Thus, the motor can be driven in either direction. Through a drive pinion which is connected to the motor, the window can be raised and lowered. The windows may be stopped in any position.

The multiple switch, located on the left door trim panel, acts as a master control and is connected in parallel to other switches located on the other three doors. A safety relay is mounted on the dash panel of the engine compartment. On Ford cars, one wire lead from the relay is attached to the accessory side of the ignition switch so that the windows can be operated only when the ignition switch is on.

(*Continued on page* 124)

**Fig. 6. Rear door regulator assembly, Type B, shown installed in the door.**

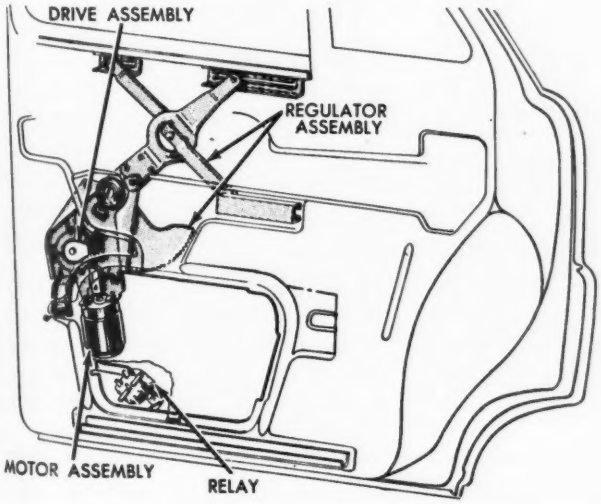
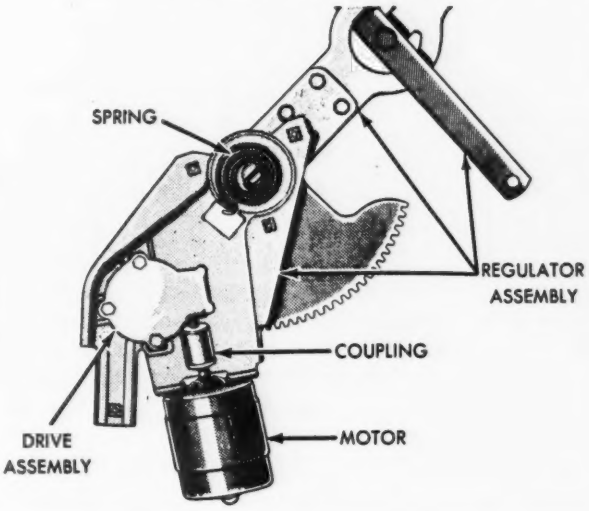
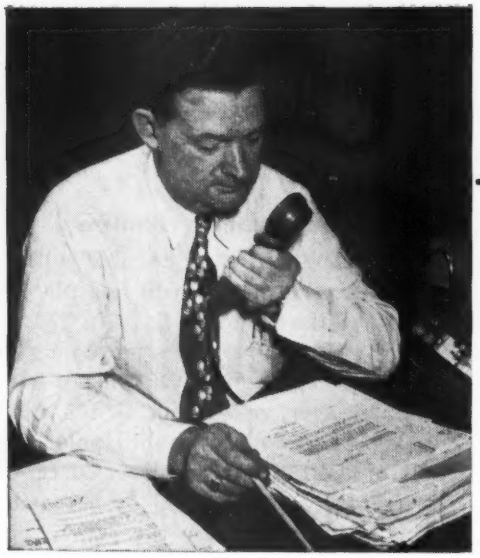



**Fig. 7. View of rear door electric window regulator, showing component parts.**





# READERS' TROUBLE

by Jack Montgomery, Technical Editor

- **Ford truck misses at 25 mph**
- **Clutch won't release on Henry J**
- **Car pulls to right**
- **Installing a clutch on Stude.**
- **Buick Dynaflow leaks oil**
- **Overheating problem on truck**

## Ford Truck Misses at Speeds Higher Than 25 MPH

*We have a Ford truck with carburetor trouble that has me puzzled. It missed and sputtered when accelerating and at speeds faster than 25 miles per hour. After checking I found that the engine was getting too much gasoline. The engine ran perfectly at idle speed, but when the speed was increased gasoline would dribble in a stream from both main discharge nozzles, with the amount increasing with increase in speed. As soon as the speed is reduced to an idle or a little faster the carburetor functions normally. I replaced the fuel pump, dissembled the carburetor and soaked it in carburetor cleaner, blew it out and then installed a carburetor parts kit, and adjusted float for proper gasoline level in the carburetor. Ignition was also checked, but after all this work the carburetor still acts the same.*

*Alton O. Larson*
*Park River, N. D.*

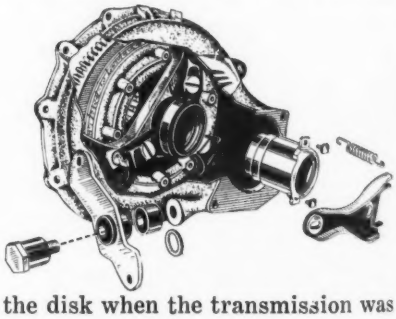
IF the float level was set correctly and fuel pump pressure was normal, I would suggest replacing the needle valve and seat. I have experienced the above condition and each time the needle valve and seat were at fault.

## Overhauled Henry J Clutch Won't Release

*We overhauled a clutch on a 1951 Henry J, installing a new clutch disk and pressure plate assembly. Now we find the clutch doesn't seem to release right. It always clashes in low gear. Have you heard of this trouble?*

*Car Conditioning Co.*
*49th & Brown Sts.*
*Phila., Pa.*

IT'S quite possible that the pressure plate cover is not adjusted correctly or you might have sprung



the disk when the transmission was installed. Also there is the possibility that the throwout fork is cracked in the socket. I would suggest taking the clutch out again and closely examining the above item.

## Complaint On Steering That Pulls Car To Right

*We installed 500 lb over load springs on the rear end of a 1947 Buick sedan. The car sits level,*

FOR ADDITIONAL SERVICE INFORMATION REFER TO CHILTON'S

# SHOOTING PROBLEMS

*but pulls to the right and handles poorly. It checks out with factory specifications. Should the tolerances be increased or decreased on this car? New springs and shocks have been added and the rest of the front end is in good condition.*

*George May*
*Hague, N. Y.*

IF the front end checks out according to the factory specifications, it should be right. The only thing I would suggest checking would be for a bent steering arm and wheel tram. Make sure the front wheel hubs are exactly the same distance apart from the rear hubs on both sides. Make sure the air pressures are equal in both front tires.

## How to Install a Clutch In Stude. Champion

*Could you give me any information on a Studebaker Champion clutch and overdrive transmission? I want to replace a clutch on a Champion.*

*Fair's Garage*
*Cowansville, Pa.*

REMOVE the starter and put a jack under the engine for support. Detach the front universal and lower the shaft. Remove the cross member under the transmission. There are two bolts on each side which engage the threaded holes in the body and four bolts holding the member to the frame. Unfasten and remove the transmission from the bell housing, lower the engine and unbolt the flywheel housing.

## This Buick Dynaflow Leaks Oil Front and Rear

*We service a 1951 Buick on which the dynaflow leaks pretty badly. It seems to leak at the front and back end of the transmission. Are these hard to fix?*

*R. H. Erny & Co.*
*1726 Cherry St.*
*Phila., Pa.*

USUALLY when a leak is noticed at the front and back it is caused by the front pump seal and the rear seal leaking. Remove the

transmission and install a new pump seal and rear seal. Also make sure the hub on the front pump isn't grooved or pitted. If worn, replace the seal and the pump.

## Cooling System Clean But Pickup Still Overheats

*I recently had a 1947 K B 2 International Pickup that runs hot and so far I have not been able to help it any. It boils on a two-mile drive, after starting with a cold engine. I gave it a complete cooling system cleaning, consisting of descaling the block and head, and rodding out the radiator core.*

*Everett Gaston*
*Mount Ida, Arkansas*

THIS job must really be something to lick. About the only thing that comes to my mind that could cause it to heat up so quickly is a crack in the cylinder head inside the combustion chamber. These cracks are usually hard to find, as they only show up under heat and compression. I would suggest jacking the rear end up and running the truck in high gear, and putting a load on the engine by applying the brakes. While this is being done, have someone remove the radiator cap to look for air trouble.

MOTOR AGE FLAT RATE AND SERVICE MANUAL

# Current Engine and Tune-up Specifications

| MAKE AND MODEL | Wheelbase (In.) | ENGINE: No. of Cylinders, Bore and Stroke | Taxable H.P. | Piston Displacement (Cu. In.) | Maximum Brake H.P. at Specified R.P.M. (with Bare Engine) | Compression Ratio | TUNE-UP DATA: Spark Plug Make and Type | Rings: No. and Width Compression | Rings: No. and Width Oil | Valves: Seat Angle • Inlet | Valves: Seat Angle • Exhaust | Valves: Stem Diameter (In.) Inlet | Valves: Operating Tappet Clearance Inlet | Valves: Operating Tappet Clearance Exhaust | Valves: Inlet Tappet Clearance for Valve Timing | Valves: Timing Deg. Inlet Opens Before or After T.C. | Valves: Timing Timing Marks Located | Ignition: Breaker Point Gap | Ignition: Cam Angle (Deg.) | Ignition: Spark Plug Gap | Ignition: Timing Spark Occurs °TC | Ignition: Timing Timing Marks Located | Crankcase Capacity Refill (Qts.) | Cooling System Capacity (Qts.) | STEERING: Caster (Deg.) | Camber (Deg.) | Toe-In (In.) | King Pin Inclination at Camber (Degrees) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Buick | V8, 40 | 122 | 8-3 5/8x3.2 | 42.05 | 264.0 | 143-4200 | 7.2 | AC-44-5 | 2-5/64 | 2-3/16 | 45 | 45 | .372 | AA | AA | .004(b) | 25B | FP | .015 | (d) | .033 | 5B | FP | 6 | 16½(e | ¾N to ½P | ⅝N to ⅞P | 0 to 1/16 | 0 |
| | V8, 60 | 122 | 8-4x3.2 | 51.20 | 322.0 | 195-4100 | 8.0 | AC-44-5 | 2-5/64 | 2-1/16 | 45 | 45 | .372 | AA | AA | .004(b) | 25B | VD | .015 | .... | .033 | 5B | VD | 6 | 16½(e | ¾N to ½P | ⅝N to ⅞P | 0 to 1/16 | 0 |
| | V8, 50 | 127 | 8-4x3.2 | 51.20 | 322.0 | 177-4100 | 8.0 | AC-44-5 | 2-5/64 | 1-3/16 | 45 | 45 | .372 | AA | AA | .004(b) | 25B | VD | .015 | (d) | .033 | 5B | VD | 6 | 16½(e | ¾N to ½P | ⅝N to ⅞P | 0 to 1/16 | 0 |
| | V8, 70 | 127 | 8-4x3.2 | 51.20 | 322.0 | 200-4100 | 8.5 | AC-44-5 | 2-5/64 | 1-3/16 | 45 | 45 | .372 | AA | AA | .004(b) | 25B | VD | .015 | (d) | .033 | 5B | VD | 6 | 18½ | ¾N to ½P | ⅝N to ⅞P | 0 to 1/16 | 0 |
| Cadillac | V8, 62 | 129 | 8-3 13/16x3⅝ | 46.50 | 331.0 | 230-4400 | 8.3 | AC-46-5 | 2-5/64 | 1-3/16 | 44 | 44 | .342 | AA | AA | ..... | 22B | VD | .019 | 31 | .035 | 5B | CB | 5 | 19¾ | 0 to 1N | ⅜N to ⅜P | 3/16 to ¼ | 5°51′ |
| | V8, 60 | 133 | 8-3 13/16x3⅝ | 46.50 | 331.0 | 230-4400 | 8.3 | AC-46-5 | 2-5/64 | 1-3/16 | 44 | 44 | .342 | AA | AA | ..... | 22B | VD | .019 | 31 | .035 | 5B | CB | 5 | 19¾ | 0 to 1N | ⅜N to ⅜P | 3/16 to ¼ | 5°51′ |
| | V8, 75 | 149 13/16 | 8-3 13/16x3⅝ | 46.50 | 331.0 | 230-4400 | 8.3 | AC-46-5 | 2-5/64 | 1-3/16 | 44 | 44 | .342 | AA | AA | ..... | 22B | VD | .019 | 31 | .035 | 5B | CB | 5 | 19¾ | 0 to 1N | ⅜N to ⅜P | 3/16 to ¼ | 5°51′ |
| Chevrolet 6-1500, 2100, 2400 | | 115 | 6-3 9/16x3 15/16 | 30.40 | 235.5 | 115-3700 | 7.5 | AC-44-5 | 2-3/32 | 1-3/16 | 31 | 46 | .341 | .010H | .020H | ..... | 1A | Fly | .015 | 42 | .036 | 2A | Fly | 5 | 16 | 0 to 1P | 0 to 1P | 1/16 to 3/16 | 3½-4½ |
| 6-1530, 2100, 2400* | | 115 | 6-3 9/16x3 15/16 | 30.40 | 235.5 | 125-4000 | 7.5 | AC-44-5 | 2-3/32 | 1-3/16 | 31 | 46 | .341 | AA | AA | ..... | 10½B | Fly | .015 | 42 | .036 | 2A | Fly | 5 | 16 | 0 to 1P | 0 to 1P | 1/16 to 3/16 | 3½-4½ |
| | 2900 | 102 | 6-3 9/16x3 15/16 | 30.40 | 235.5 | 150-4200 | 8.0 | AC-44-5 | 2-3/32 | 1-3/16 | 31 | 45 | .341 | .010H | .020H | ..... | 19½B | Fly | .016 | 44 | .036 | 2A | Fly | 5 | 17¾ | 0 to 1P | 0 to 1P | 0 to ⅛ | 3½-4½ |
| Chrysler | 6, C-62 | 125½ | 6-3 9/16x4¾ | 28.36 | 264.5 | 119-3600 | 7.0 | AL-4S140 | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .008H | .010H | .014 | 12B | VD | .019 | 39 | .035 | TC | VD | 5 | 15 | 1N to 3N | ⅜N to ⅜P (h) | 0 to 1/16 | 5-6½ |
| | V8, C63, C64, C66 | (g) | 8-3 13/16x3⅝ | 46.51 | 331.1 | (o) | 7.5 | AL-4GS150 | 2-5/64 | 1-3/16 | 45 | 45 | .373 | AA | AA | VTS | 15B | VD | .017 | 34 | .035 | 4B | VD | 5 | 25 | 1N to 3N | ⅜N to ⅜P (h) | 0 to 1/16 | (t) |
| De Soto | 6, S-20 | 125½ | 6-3 9/16x4½ | 28.36 | 250.6 | 116-3600 | 7.0 | AL-4S140 | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .008H | .010H | .014 | 12B | VD | .019 | 39 | .035 | 2B | VD | 5 | 15 | 1N to 3N | ⅜N to ⅜P (h) | 0 to 1/16 | 5½ |
| | V8, S-19 | 125½ | 8-3⅝x3 11/16 | 42.05 | 276.1 | 170-4400 | 7.5 | AL-4S140 | 2-5/64 | 1-3/16 | 45 | 45 | .373 | AA | AA | VTS | 12B | VD | .017 | 34 | .035 | 4B | VD | 5 | 22 | 1N to 3N | ⅜N to ⅜P (h) | 0 to 1/16 | 5½ |
| Dodge | 6, D-51, D-52 | (r) | 6-3¼x4⅝ | 25.35 | 230.2 | 110-3600 | 7.3 | AL-4S140 | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .010H | .010H | .014 | 12B | (s) | .020 | 39 | .035 | 2B | (s) | 5 | 14 | 1N to 1P | ⅜N to ⅜P (h) | 0 to 1/16 | 5½ |
| | V8, D-50, D-53 | (r) | 8-3 7/16x3¼ | 37.80 | 241.3 | (i) | (l) | AL-4S140 | 2-5/64 | 1-3/16 | 45 | 45 | .373 | AA | AA | VTS | 17B | FP | .017 | 34 | .035 | 4B | FP | 5 | 19 | 1N to 1P | ⅜N to ⅜P (h) | 0 to 1/16 | 5½ |
| Ford | 6 | 115½ | 6-3.62x3.6 | 31.50 | 223.0 | 115-3900 | 7.2 | CH-H-10 | 2-3/32 | 1-3/16 | 45 | 45 | .342 | .015H | .019H | .013 | 13B | VD | .025 | 37 | .035 | 3B | VD | 4 | 15 | 0 to 1P | 0 to 1P | 1/16 to ⅛ | 7°7′ |
| | V8 | 115½ | 8-3½x3.1 | 39.20 | 239.0 | 130-4200 | 7.2 | CH-H-10 | 2-3/32 | 1-3/16 | 45 | 45 | .342 | .019H | .019H | (y) | 8B | FP | .015 | 27 | .035 | 6B | FP | 5 | 20 | 0 to 1P | 0 to 1P | 1/16 to ⅛ | 7°7′ |
| Henry J | 4, 543 | 100 | 4-3⅛x4⅜ | 15.63 | 134.2 | 68-4000 | 7.0 | AL-A7 | 2-3/32 | 1-3/16 | 45 | 45 | .373 | .016C | .016C | .020 | 9B | FP | .022 | 30 | .030 | 5B | FP | 4 | 10.8 | 1N to 1P | ¼P to 1P | 1/16 to ¼ | 4-4¾ |
| | 6, 544 | 100 | 6-3⅛x3½ | 23.40 | 161.0 | 80-3800 | 7.0 | AL-A7 | 2-3/32 | 1-3/16 | 45 | 45 | .341 | .016C | .016C | .020 | 5B | VD | .022 | 34 | .030 | 5B | VD | 5 | 9½ | 1N to 1P | ¼P to 1P | 1/16 to ¼ | 4-4¾ |
| Hudson | 6, 1D, 2D, 3D | 105 | 6-3x4¾ | 21.60 | 202.0 | 104-4000 | 7.5 | CH-H-10 | 2-5/64 | 2-(j) | 45 | 46 | .342 | .010H | .012H | .010 | 26.8B | VD | .020 | 39 | .032 | TC | VD | 5 | 15 | ½P to 1½P | ¼P to 1¼P | 0 to 1/16 | 4 |
| | 6, 4D | 119⅞ | 6-3 9/16x3⅞ | 30.45 | 232.0 | 126-4400 | 7.0 | CH-H-10 | 2-5/64 | 2-(j) | 45 | 45 | .342 | .008H | .010H | .008 | 33.7B | Fly | .020 | 39 | .032 | TC | Fly | 7 | 18½ | ½P to 1½P | ½P to 1½P | 0 to 1/16 | 3°36′ |
| | 6, 5D | 119⅞ | 6-3 9/16x4⅜ | 30.45 | 262.0 | 140-4000 | 7.0 | CH-H-10 | 2-5/64 | 2-(j) | 45 | 45 | .342 | .008H | .010H | .008 | 33.7B | Fly | .020 | 39 | .032 | TC | Fly | 7 | 18½ | ½P to 1½P | ½P to 1½P | 0 to 1/16 | 3°36′ |
| | 6, 7D | 123⅞ | 6-3 13/16x4½ | 34.88 | 308.0 | 160-3800 | 7.5 | CH-H-11 | 2-5/64 | 2-(j) | 45 | 45 | .342 | .008H | .010H | .008 | 33.7B | Fly | .020 | 39 | .032 | TC | Fly | 7 | 18½ | ½P to 1½P | ½P to 1½P | 0 to 1/16 | 3°36′ |
| Kaiser | 6, 542 | 118½ | 6-3 9/16x4⅜ | 26.30 | 226.2 | 140-3800 | 7.3 | AL-A-7 | 2-3/32 | 2-3/32 | 30 | 45 | .341 | .014C | .014C | .018 | 10B | VD | .016 | 42 | .030 | 4B | VD | 5 | 12½ | 1N to 1P | 0 to ¾P | 1/16 to ⅛ | 4¾-5½ |
| | 6, 545 | 118½ | 6-3 9/16x4⅜ | 26.30 | 226.2 | 118-3650 | 7.3 | AL-A-7 | 2-3/32 | 2-3/32 | 30 | 45 | .341 | .014C | .014C | .018 | 10B | VD | .022 | 34 | .030 | 4B | VD | 5 | 12½ | 1N to 1P | 0 to ¾P | 1/16 to ⅛ | 4¾-5½ |
| Lincoln | V8 | 123 | 8-3.8x3½ | 46.20 | 317.0 | 205-4200 | 8.0 | CH-H-10 | 2-5/64 | 1-3/16 | 45 | 45 | .342 | AA | AA | ..... | 18B | VD | .015 | 27 | .035 | 3B | VD | 5 | 22½ | 0 to 1½N | 0 to ¾P | 3/32 to 3/32 | 7⅙ |
| Mercury | V8 | 118 | 8-3.62x3.1 | 42.05 | 256.0 | 161-4400 | 7.5 | CH-H-10 | 2-3/32 | 1-3/16 | 45 | 45 | .342 | .019H | .019H | (f) | 15B | FP | .015 | 27 | .031 | 3B | FP | 5 | 19 | 0 to 1½N | 0 to ¾P | 3/32 to 3/32 | 7¾ |
| Nash | 6, 5410 | 100 | 6-3⅛x4 | 23.44 | 184.0 | 85-3800 | 7.3 | AL-A7-A | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .015H | .015H | .015 | 10B | VD | .022 | 34 | .030 | TC | VD | 4 | 11 | ¾P to 1¼P | ¼P to ¾P | ⅛ to ¼ | 8 |
| | 6, 5410† | ▲ | 6-3⅛x4¼ | 23.44 | 195.6 | 90-3800 | 7.3 | AL-A7-A | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .015H | .015H | .015 | 10B | VD | .022 | 34 | .030 | 4A | VD | 4 | 11 | ¾P to 1¼P | ¼P to ¾P | ⅛ to ¼ | 8 |
| | 6, 5440 | 114¼ | 6-3⅛x4¼ | 23.44 | 195.6 | 110-4000 | 8.5 | AL-AL-5B | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .015H | .015H | .015 | 10B | VD | .022 | 34 | .030 | 4A | VD | 4 | 14 | 0 to ½P | ¼N to ¼P | 1/16 to 1/16 | 6½ |
| | 6, 5460 | 121¼ | 6-3½x4⅜ | 29.40 | 252.6 | 130-3700 | 7.6 | AL-A7-A | 2-3/32 | 2-3/32 | 30 | 45 | .373 | .012H | .016H | .023 | 12½B | VD | .022 | 34 | .030 | TC | VD | 6 | 17 | 0 to ½P | ¼N to ¼P | 1/16 to 1/16 | 6½ |
| | Metropolitan | 85 | 4-2 27/64x3½ | 10.63 | 73.1 | 42-4500 | 7.2 | CH-N8B | 3-5/64 | 1-3/32 | 30 | 45 | .309 | .015C | .015C | .015 | 5B | .... | .015 | .... | .023 | 7B | FP | 4 | 7½ | 2 to 3 | ½ to 1½ | 0 to 1/16 | 6½ |
| Oldsmobile | V8, 88 | 122 | 8-3 7/8x3 7/16 | 48.00 | 324.3 | 170-4000 | 8.3 | AC-46-5 | 2-5/64 | 1-3/16 | 45 | 45 | .342 | AA | AA | ..... | 13½B | FP | .016 | 30 | .030 | 5B | FP | 5 | 20½ | 0 to ¾N | ¼N to ¾P | 1/16 to ⅛ | 5°51′10″ |
| | V8, Super 88 | 122 | 8-3 7/8x3 7/16 | 48.00 | 324.3 | 185-4000 | 8.3 | AC-46-5 | 2-5/64 | 1-3/16 | 45 | 45 | .342 | AA | AA | ..... | 13½B | VD | .016 | 30 | .030 | 5B | FP | 5 | 20½ | 0 to ¾N | ¼N to ¾P | 1/16 to ⅛ | 5°51′10″ |
| | V8, 98 | 126 | 8-3 7/8x3 7/16 | 48.00 | 324.3 | 185-4000 | 8.3 | AC-46-5 | 2-5/64 | 1-3/16 | 45 | 45 | .342 | AA | AA | ..... | 13½B | VD | .016 | 30 | .030 | 5B | FP | 5 | 20½ | 0 to ¾N | ¼N to ¾P | 1/16 to ⅛ | 5°51′10″ |
| Packard | 8-5400 | 122 | 8-3½x3¾ | 39.20 | 288.0 | 150-4000 | 7.7 | CH-J-8 | 2-3/32 | 1-3/16 | 30 | 45 | .342 | .007H | .010H | .012 | 15B | VD | .015 | 25 | .026 | 6B | VD | 7 | 19.9 | ½N to 1½N | ¼N to ¾P | 0 to 1/16 | 5⅚ |
| | 8-5401, 5411 | 122 | 8-3½x4¼ | 39.20 | 327.0 | 165-3600 | 8.0 | CH-J-8 | 2-3/32 | 1-3/16 | 30 | 35 | .342 | .007H | .010H | .012 | 10B | VD | .015 | (n) | .026 | 6B | VD | 7 | 19.9 | ½N to 1½N | ¼N to ¾P | 0 to 1/16 | 5⅚ |
| | 8-5402 | 127 | 8-3½x4¼ | 39.20 | 327.0 | 185-4000 | 8.0 | CH-J-8 | 2-3/32 | 1-3/16 | 30 | 45 | .342 | AA | AA | No | 10B | VD | .015 | 31 | .026 | 6B | VD | 7 | 19.9 | ½N to 1½N | ¼N to ¾P | 0 to 1/16 | 5⅚ |
| | 8-5431 | 127 | 8-3 9/16x4½ | 40.60 | 359.0 | 212-4000 | 8.7 | CH-J-8 | 2-5/64 | 1-3/16 | 30 | 45 | .342 | AA | AA | No | 22B | VD | .015 | 31 | .026 | TC | VD | 7 | 19.9 | ½N to 1½N | ¼N to ¾P | 0 to 1/16 | 5⅚ |
| | 8-5406 | 127 | 8-3 9/16x4½ | 40.60 | 359.0 | 212-4000 | 8.7 | CH-J-8 | 2-5/64 | 1-3/16 | 30 | 45 | .342 | AA | AA | No | 22B | VD | .015 | 31 | .026 | TC | VD | 7 | 19.9 | ½N to 1½N | ¼N to ¾P | 0 to 1/16 | 5⅚ |
| | 8-5426 | 149 | 8-3 9/16x4½ | 40.60 | 359.0 | 212-4000 | 8.7 | CH-J-8 | 2-5/64 | 1-3/16 | 30 | 45 | .342 | AA | AA | No | 22B | VD | .015 | 31 | .026 | TC | VD | 7 | 19.9 | ½N to 1½N | ¼N to ¾P | 0 to 1/16 | 5⅚ |
| Plymouth | 6, P-25 Early | 114 | 6-3¼x4⅜ | 25.35 | 217.8 | 100-3600 | 7.1 | AL-4S140 | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .010H | .010H | .014 | 12B | FP | .020 | 39 | .035 | 2B | FP | 5 | 13 | 1N to 1P | ⅜N to ⅜P (h) | 0 to 1/16 | 5½ |
| | 6, P-25 Late | 114 | 6-3¼x4⅜ | 25.35 | 230.2 | 110-3600 | 7.3 | AL-4S140 | 2-3/32 | 2-3/32 | 45 | 45 | .341 | .010H | .010H | .014 | 12B | VD | .020 | 39 | .035 | 2B | VD | 5 | 13 | 1N to 1P | ⅜N to ⅜P (h) | 0–1/16 | 5½ |
| Pontiac | 6, 25 | 122 | 6-3 9/16x4 | 30.46 | 239.2 | (u) | (w) | AC-44-5 | 2-5/64 | 1-3/16 | 30 | 45 | .311 | .012H | .012H | .015C | 12½B | VD | .016 | 26 | .026 | 3B | VD | 5 | 18½ | ¼N to ¼P | 0 to ½P | 0 to 1/16 | ..... |
| | 8, 27, 28 | (k) | 8-3⅜x3¾ | 36.45 | 268.4 | (v) | (x) | AC-44-5 | 2-3/32 | 1-3/16 | 30 | 45 | .311 | .012H | .012H | .015C | 5B | VD | .016 | 26 | .026 | †† | VD | 5 | 18¾ | ¼N to ¼P | 0 to ½P | 0 to 1/16 | ..... |
| Studebaker■ | ℓ, 16G6 | • | 6-3x4⅜ | 21.60 | 185.6 | 101-4000 | 7.5 | CH-J7 | 2-(q) | 1-3/32 | 45 | 45 | .313 | .016C | .016C | .020 | 15B | VD | .020 | 39 | .031 | 2B | VD | 5 | 10 | 1N to 2½N | 0 to 1P | 1/16 to ⅛ | 6 |
| | V8, 16G8 | • | 8-3 9/16x2 13/16 | 40.60 | 224.3 | 140-4500 | 7.5 | CH-H11 | 2-5/64 | 1-3/16 | 45 | 45 | .344 | .026C | .026C | .030 | 19B | VD | .013 | 31 | .036 | 8B | VD | 6 | 17¼ | 1N to 2½N | 0 to 1P | 1/16 to ⅛ | 6 |
| | V8, 6H | 120½ | 8-3 9/16x3¼ | 40.60 | 259.2 | 175-4500 | 7.5 | CH-H11 | 2-5/64 | 1-3/16 | 45 | 45 | .344 | .026C | .026C | .030 | 11B | VD | .013 | 31 | .036 | 4B | VD | 6 | 17¼ | 1N to 2½N | 0 to 1P | 1/16 to ⅛ | 6 |
| Willys | 6, 6-226 | 108 | 6-3 5/16x4⅜ | 26.33 | 225.2 | 115-3650 | 7.3 | CH-J8 | 2-3/32 | 2-3/32 | 30 | 45 | .314 | .014C | .014C | .018 | 10B | VD | .020 | 39 | .030 | 5B | VD | 5 | 13 | ½P to 1½P | ¾P to 1¼P | 3/32 to 3/32 | 8¼ |
| | 6, Lark | 108 | 6-3⅛x3½ | 23.40 | 161.0 | 90-4200 | 7.6 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

**ABBREVIATIONS**

■—1955 production models.
•—Powerglide chassis model available at extra cost.
†—Hydramatic chassis model available at extra cost.
▲—100; 108.
††—6B with std. trans.; 3B with Hydra.
●—2 dr. and 4 dr. Sedan and Station Wagon, 116½; Coupe and Hardtop, 120½.
(b)—Off seat.
(d)—Dwell meter for setting point opening is not recommeded.
(e)—18½ when equipped with Dynaflow transmission.
(f)—.017 opening; .018 closing.
(g)—C-63, 125½; C-64-4 dr., 133½ and Newport, 131½; C-66, 145½.
(h)—Left side to be ¼° to ½° higher than right side, within these limits.
(i)—140-4400 on D50-1; 150-4400 on D50-2, 3 and D53.
(j)—Upper 5/16; lower 5/32.
(k)—122 on 27; 124 on 28.
(l)—7.1 on D50-1; 7.5 on D50-2,3; D53.
(n)—5401, 27; 5411, 31.
(o)—C-63-1, 195-4400; C-63-2, C-64, C-66, 235-4400.
(q)—Top—3/32; bottom—⅛.
(r)—114 on D52-2 dr. and D53; 119 on D50, D51, D52-4 dr.
(s)—VD on D51-2; FP on D51-1, D52.
(t)—C-63. 64, 5-6½; C-66, 6½-8.
(u)—115-3800 with std. trans.; 118-3800 with Hydra.
(v)—122-3800 with std. trans.; 127-3800 with Hydra.
(w)—7.0 with std. trans.; 7.7 with Hydra.
(x)—6.8 with std. trans.; 7.7 with Hydra.
(y)—.015 opening; .019 closing.
A—After. AA—Automatic adjustment.
AC—AC Spark Plug Co.
AL—The Electric Autolite Co.
B—Before. C—Cold.
CB—Crankshaft balancer.
CH—Champion Spark Plug Co.
Fly—Flywheel.
FP—Cranksnaft fan drive pulley.
H—Hot.
N—Negative.
P—Positive.
TC—Top center.
VD—Vibration damper.
VTS—Valve train solid.

# Current Passenger Car Price, Weight and Body Table

***Following are prices at factory for cars with standard equipment as of September 22, 1954. State or local taxes, transportation and finance charges and optional equipment are extra.***

| BODY MAKE AND MODEL | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory Including Federal Taxes | Shipping Weight |
|---|---|---|---|---|
| **BUICK** | | | | |
| Special 40 | | | | |
| Sedan, DeL., 2d | 2010 | 197 | 2207 | 3690 |
| Sedan, DeL., 4d | 2064 | 201 | 2265 | 3735 |
| Riviera Cpe. | 2102 | 203 | 2305 | 3740 |
| Conv. Cpe. | 2343 | 220 | 2563 | 3810 |
| Est. Wagon | 2900 | 263 | 3163 | 3905 |
| Century 60 | | | | |
| Sedan, DeL., 4d | 2288 | 232 | 2520 | 3805 |
| Riviera Cpe. | 2301 | 233 | 2534 | 3795 |
| Conv. Cpe. | 2700 | 263 | 2963 | 3950 |
| Est. Wagon | 3172 | 298 | 3470 | 3975 |
| Super 50 | | | | |
| Riviera Cpe. | 2387 | 239 | 2626 | 4035 |
| Riviera Sed., 4d | 2466 | 245 | 2711 | 4105 |
| Conv. Cpe. | 2701 | 263 | 2964 | 4145 |
| Roadmstr. 70 | | | | |
| Riviera Sed., 4d | 2971 | 298 | 3269 | 4250 |
| Riviera Cpe. | 3068 | 305 | 3373 | 4215 |
| Conv. Cpe. | 3205 | 316 | 3521 | 4355 |
| Skylark 100 | | | | |
| Sports Conv. | 4100 | 383 | 4483 | 4260 |
| **CADILLAC** | | | | |
| Series 62 | | | | |
| Coupe | ..... | ..... | 3838 | 4347 |
| Sedan | ..... | ..... | 3933 | 4330 |
| Convertible | ..... | ..... | 4404 | 4598 |
| Coupe De Ville | ..... | ..... | 4261 | 4409 |
| Eldorado | ..... | ..... | 5738 | 4809 |
| Series 60 | | | | |
| Sedan | ..... | ..... | 4683 | 4490 |
| Series 75 | | | | |
| Fltwd. Sedan | ..... | ..... | 5875 | 5031 |
| Fltwd. Imp. | ..... | ..... | 6090 | 5093 |
| **CHEVROLET** | | | | |
| Special 1500-A | | | | |
| Util. Sedan | 1400 | 139 | 1539 | 3145 |
| Sedan, 2d | 1479 | 144 | 1623 | 3165 |
| Sedan, 4d | 1530 | 150 | 1680 | 3210 |
| Station Wagon | 1845 | 175 | 2020 | 3455 |
| DeLuxe 2100 | | | | |
| Sedan, 2d | 1564 | 153 | 1717 | 3185 |
| Sedan, 4d | 1615 | 156 | 1771 | 3230 |
| Delray Coupe | 1625 | 157 | 1782 | 3185 |
| Station Wagon | 1950 | 183 | 2133 | 3470 |
| Bel Air 2400 | | | | |
| Sedan, 2d | 1669 | 161 | 1830 | 3220 |
| Sedan, 4d | 1720 | 164 | 1884 | 3255 |
| Sport Coupe | 1883 | 178 | 2061 | 3300 |
| Convertible | 1998 | 187 | 2185 | 3445 |
| Station Wagon | 2090 | 193 | 2283 | 3540 |
| Corvette 2900 | | | | |
| Convertible | 3250 | 273 | 3523 | 2705 |
| **CHRYSLER‡** | | | | |
| Wind. DeL. 6 | | | | |
| Club Coupe | 2330 | 181 | 2511 | 3565 |
| Sedan, 4d, 6p | 2350 | 182 | 2532 | 3655 |
| Newport | 2600 | 201 | 2801 | 3685 |
| Conv. Coupe | 2800 | 216 | 3016 | 3915 |
| Twn. & Cty. | 3056 | 235 | 3291 | 3955 |
| Sedan, 4d, 8p | 3215 | 247 | 3462 | 4185 |
| New Yorker 8 | | | | |
| Club Coupe | 2940 | 227 | 3167 | 3910 |
| Sedan, 4d, 6p | 2965 | 229 | 3194 | 3970 |
| Newport | 3220 | 248 | 3468 | 4005 |
| Twn. & Cty. | 3705 | 284 | 3989 | 4245 |
| Sedan, 4d, 8p | 4025 | 308 | 4333 | 4450 |
| N. Y. DeL. 8 | | | | |
| Club Coupe | 3130 | 241 | 3371 | 4005 |
| Sedan, 4d, 6p | 3155 | 243 | 3398 | 4065 |
| Newport | 3410 | 262 | 3672 | 4095 |
| Conv. Coupe | 3625 | 278 | 3903 | 4265 |
| Cust. Imp. 8 | | | | |
| Sedan, 4d, 6p | 3925 | 300 | 4225 | 4355 |
| Newport | 4205 | 320 | 4525 | 4345 |
| Town Limos'n | 4425 | 337 | 4762 | 4465 |
| Crown Imp. 8 | | | | |
| Sedan, 4d, 8p | 6406 | 466 | 6872 | 5220 |
| Limousine, 8p | 6520 | 474 | 6994 | 5295 |
| **DE SOTO‡** | | | | |
| Powermaster 6 | | | | |
| Club Coupe | 2166 | 168 | 2334 | 3505 |
| Sedan, 4d, 6p | 2186 | 170 | 2356 | 3570 |
| Stat. Wagon | 2857 | 221 | 3078 | 3855 |
| Sedan, 4d, 8p | 3018 | 233 | 3251 | 4100 |
| Firedome 8 | | | | |
| Club Coupe | 2433 | 188 | 2621 | 3735 |
| Sedan, 4d, 6p | 2453 | 190 | 2643 | 3790 |
| Sportsman | 2685 | 207 | 2892 | 3815 |
| Conv. Coupe | 2891 | 223 | 3114 | 4015 |
| Stat. Wagon | 3111 | 240 | 3351 | 4045 |
| Sedan, 8p | 3276 | 253 | 3529 | 4305 |

| BODY MAKE AND MODEL | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory Including Federal Taxes | Shipping Weight |
|---|---|---|---|---|
| **DODGE‡** | | | | |
| Mdowbrk. 6 | | | | |
| Club Coupe | 1816 | 142 | 1958 | 3125 |
| Sedan, 4d | 1855 | 145 | 2000 | 3170 |
| Coronet 6 | | | | |
| Club Coupe | 1933 | 151 | 2084 | 3165 |
| Sedan, 4d | 1958 | 153 | 2111 | 3235 |
| Suburban | 2044 | 160 | 2204 | 3185 |
| Sierra, 2 seat | ..... | ..... | ..... | 3430 |
| Sierra, 3 seat | ..... | ..... | ..... | 3435 |
| Mdowbrk. 8 | | | | |
| Club Coupe | 1975 | 154 | 2129 | 3320 |
| Sedan, 4d | 1995 | 156 | 2151 | 3375 |
| Coronet 8 | | | | |
| Club Coupe | 2039 | 159 | 2198 | 3345 |
| Sedan, 4d | 2059 | 161 | 2220 | 3405 |
| Sport Coupe | 2185 | 170 | 2355 | 3310 |
| Conv. Coupe | 2309 | 180 | 2489 | 3505 |
| Suburban | 2312 | 180 | 2492 | 3400 |
| Sierra, 2 seat | ..... | ..... | ..... | 3605 |
| Sierra, 3 seat | ..... | ..... | ..... | 3660 |
| Royal 8 | | | | |
| Club Coupe | 2156 | 168 | 2324 | 3365 |
| Sedan, 4d | 2178 | 170 | 2348 | 3425 |
| Sport Coupe | 2299 | 179 | 2478 | 3355 |
| Conv. Coupe | 2419 | 188 | 2607 | 3575 |
| **FORD** | | | | |
| Mainline 6 | | | | |
| Business Cpe. | 1400 | ..... | ..... | 3021 |
| Tudor Sedan | 1496 | ..... | ..... | 3086 |
| Fordor Sedan | 1542 | ..... | ..... | 3142 |
| Ranch Wagon | 1846 | ..... | ..... | 3338 |
| Customline 6 | | | | |
| Tudor Sedan | 1582 | ..... | ..... | 3099 |
| Club Coupe | 1591 | ..... | ..... | 3080 |
| Fordor Sedan | 1628 | ..... | ..... | 3155 |
| Ranch Wagon | 1932 | ..... | ..... | 3344 |
| Country Sedan | 2006 | ..... | ..... | 3513 |
| Crestline 6 | | | | |
| Fordor Sedan | 1726 | ..... | ..... | 3159 |
| Victoria | 1870 | ..... | ..... | 3184 |
| Sunliner | 1972 | ..... | ..... | 3231 |
| Skyliner | 1972 | ..... | ..... | 3204 |
| Country Squire | 2133 | ..... | ..... | 3563 |
| Mainliner 8 | | | | |
| Business Cpe. | 1471 | ..... | ..... | 3142 |
| Tudor Sedan | 1567 | ..... | ..... | 3207 |
| Fordor Sedan | 1613 | ..... | ..... | 3263 |
| Ranch Wagon | 1917 | ..... | ..... | 3459 |
| Customline 8 | | | | |
| Tudor Sedan | 1653 | ..... | ..... | 3220 |
| Club Coupe | 1662 | ..... | ..... | 3201 |
| Fordor Sedan | 1699 | ..... | ..... | 3276 |
| Ranch Wagon | 2003 | ..... | ..... | 3465 |
| Country Sedan | 2077 | ..... | ..... | 3634 |
| Crestline 8 | | | | |
| Fordor Sedan | 1797 | ..... | ..... | 3280 |
| Victoria | 1941 | ..... | ..... | 3305 |
| Sunliner | 2043 | ..... | ..... | 3352 |
| Skyliner | 2043 | ..... | ..... | 3325 |
| Country Squire | 2204 | ..... | ..... | 3684 |
| **HENRY J** | | | | |
| Corsair | | | | |
| Sedan, 2d | 1286 | 118 | 1404 | 2395 |
| DeL. Sed., 2d | 1437 | 129 | 1566 | 2445 |
| **HUDSON—Jet** | | | | |
| Club Sedan | 1465 | 156 | 1621 | 2635 |
| Sedan, 2d | 1665 | 172 | 1837 | 2715 |
| Sedan, 4d | 1685 | 173 | 1858 | 2675 |
| Super Jet | | | | |
| Club Sedan | 1755 | 178 | 1933 | 2710 |
| Sedan, 4d | 1775 | 179 | 1954 | 2725 |
| Jet-Liner | | | | |
| Club Sedan | 1860 | 186 | 2046 | NA |
| Sedan, 4d | 1870 | 187 | 2057 | 2760 |
| Wasp | | | | |
| Club Sedan | 2013 | 196 | 2209 | 3375 |
| Club Coupe | 2056 | 200 | 2256 | 3360 |
| Sedan, 4d | 2056 | 200 | 2256 | 3440 |
| Super Wasp | | | | |
| Club Sedan | 2203 | 210 | 2413 | 3490 |
| Club Coupe | 2252 | 214 | 2466 | 3475 |
| Sedan, 4d | 2252 | 214 | 2466 | 3525 |
| Hollywood | 2473 | 231 | 2704 | NA |
| Conv. Brghm. | NA | NA | NA | NA |
| Hornet Spec. | | | | |
| Club Sedan | 2345 | 226 | 2571 | 3515 |
| Club Coupe | 2390 | 229 | 2619 | 3505 |
| Sedan, 4d | 2390 | 229 | 2619 | 3650 |
| Hornet | | | | |
| Club Coupe | 2505 | 237 | 2742 | 3570 |
| Sedan, 4d | 2530 | 239 | 2769 | 3620 |
| Hollywood | 2733 | 255 | 2988 | NA |
| Conv. Brghm. | NA | NA | NA | NA |

| BODY MAKE AND MODEL | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory Including Federal Taxes | Shipping Weight |
|---|---|---|---|---|
| **KAISER** | | | | |
| Special | | | | |
| Club Sedan | 2141 | 193 | 2334 | ..... |
| Sedan, 4d | 2192 | 197 | 2389 | 3210 |
| Manhattan | | | | |
| Club Sedan | 2404 | 213 | 2617 | ..... |
| Sedan, 4d | 2453 | 217 | 2670 | 3375 |
| Darrin | 3368 | 300 | 3668 | ..... |
| **LINCOLN** | | | | |
| Cosmopolitan | | | | |
| Sedan, 4d | 3226 | ..... | ..... | 4190 |
| Sport Coupe | 3322 | ..... | ..... | 4250 |
| Capri | | | | |
| Sedan, 4d | 3402 | ..... | ..... | 4245 |
| Hardtop | 3549 | ..... | ..... | 4250 |
| Convertible | 3699 | ..... | ..... | 4450 |
| **MERCURY** | | | | |
| Custom | | | | |
| Sedan, 2d | 2004 | ..... | ..... | 3435 |
| Sedan, 4d | 2057 | ..... | ..... | 3480 |
| Sport Coupe | 2117 | ..... | ..... | 3485 |
| Monterey | | | | |
| Sedan, 4d | 2133 | ..... | ..... | 3515 |
| Coupe | 2244 | ..... | ..... | 3520 |
| Sun Valley | 2365 | ..... | ..... | 3535 |
| Convertible | 2390 | ..... | ..... | 3620 |
| Station Wagon | 2545 | ..... | ..... | 3735 |
| **NASH** | | | | |
| Metropolitan | | | | |
| Hardtop* | 1330 | 115 | 1445 | ..... |
| Convertible* | 1353 | 116 | 1469 | ..... |
| Rambler | | | | |
| Deluxe | | | | |
| Club Sedan, 2d | 1414 | 136 | 1550 | ..... |
| Super | | | | |
| Club Sedan, 2d | 1553 | 147 | 1700 | ..... |
| Sedan, 4d | 1641 | 154 | 1795 | ..... |
| Suburban, 2d | 1646 | 154 | 1800 | 2555 |
| C'try Club, 2d | 1646 | 154 | 1800 | ..... |
| Custom | | | | |
| Stat. Wag., 2d | 1787 | 163 | 1950 | 2570 |
| C'try Club, 2d | 1787 | 163 | 1950 | 2550 |
| Sedan, 4d | 1802 | 163 | 1965 | 2665 |
| Conv. Sed., 2d | 1817 | 163 | 1980 | 2590 |
| Cross C'try, 4d | 1880 | 170 | 2050 | ..... |
| Statesman | | | | |
| Super | | | | |
| Sedan, 2d | 1929 | 181 | 2110 | 3025 |
| Sedan, 4d | 1977 | 181 | 2158 | 3045 |
| Custom | | | | |
| Sedan, 4d | 2139 | 193 | 2332 | 3070 |
| C'try Club, 2d | 2223 | 200 | 2423 | 3095 |
| Ambassador | | | | |
| Super | | | | |
| Sedan, 2d | 2163 | 202 | 2365 | 3410 |
| Sedan, 4d | 2215 | 202 | 2417 | 3430 |
| Custom | | | | |
| Sedan, 4d | 2384 | 216 | 2600 | 3480 |
| C'try Club, 2d | 2510 | 225 | 2735 | 3550 |
| **OLDSMOBILE** | | | | |
| Series 88 | | | | |
| Sedan, 2d | 2066 | 206 | 2272 | 3699 |
| Sedan, 4d | 2126 | 211 | 2337 | 3719 |
| Holiday Cpe. | 2230 | 219 | 2449 | 3721 |
| Super 88 | | | | |
| Sedan, 2d | 2189 | 221 | 2410 | 3729 |
| Sedan, 4d | 2252 | 225 | 2477 | 3780 |
| DeL. Holiday | 2448 | 240 | 2688 | 3775 |
| Conv. Cpe. | 2615 | 253 | 2868 | 4003 |
| Series 98 | | | | |
| Sedan, 4d | 2552 | 254 | 2806 | 3895 |
| Holiday Cpe. | 2570 | 256 | 2826 | 3851 |
| DeL. Holiday | 2771 | 271 | 3042 | 3938 |
| Conv. Cpe. | 2963 | 286 | 3249 | 4193 |
| **PACKARD** | | | | |
| Clipper | | | | |
| Special | | | | |
| Club Sedan, 2d | 2332 | 212 | 2544 | 3585 |
| Sedan, 4d | 2378 | 216 | 2594 | 3650 |
| De Luxe | | | | |
| Club Sedan, 2d | 2426 | 219 | 2645 | 3590 |
| Sedan, 4d | 2472 | 223 | 2695 | 3660 |
| Sportster | 2598 | 232 | 2830 | 3595 |
| Super | | | | |
| Club Sedan, 2d | 2537 | 228 | 2765 | 3610 |
| Sedan, 4d | 2584 | 231 | 2815 | 3695 |
| Coupe | 2872 | 253 | 3125 | 3765 |

| BODY MAKE AND MODEL | List Price at Factory without Federal Taxes | Federal Taxes and Handling Charges | Delivered Price at Factory Including Federal Taxes | Shipping Weight |
|---|---|---|---|---|
| **PACKARD (Continued)** | | | | |
| Packard | | | | |
| Sedan, 4d | 3068 | 276 | 3344 | 3955 |
| Coupe | 3517 | 310 | 3827 | 4065 |
| Patrician, 4d | 3575 | 315 | 3890 | 4190 |
| Conv. Cpe. | 3618 | 317 | 3935 | 4290 |
| Sedan, 8p. | 5175 | 525 | 5610 | 4650 |
| Limousine | 5500 | 550 | 5360 | 4720 |
| Caribbean | 5632 | 468 | 6100 | 4660 |
| **PLYMOUTH‡** | | | | |
| Plaza | | | | |
| Bus. Coupe | 1480 | 118 | 1598 | 2889 |
| Club Sedan | 1582 | 125 | 1707 | 2943 |
| Sedan, 4d | 1617 | 128 | 1745 | 3004 |
| Suburban | 1895 | 149 | 2044 | 3122 |
| Savoy | | | | |
| Club Sedan | 1682 | 133 | 1815 | 2986 |
| Club Coupe | 1689 | 134 | 1823 | 2982 |
| Sedan, 4d | 1717 | 136 | 1853 | 3036 |
| Belvedere | | | | |
| Sedan, 4d | 1792 | 141 | 1933 | 3050 |
| Sport Coupe | 1970 | 155 | 2125 | 3038 |
| Suburban | 2103 | 165 | 2268 | 3186 |
| Conv. Coupe | 2115 | 166 | 2281 | 3273 |
| **PONTIAC** | | | | |
| Chieftain 6 | | | | |
| Spec. Sedan, 2d | 1788 | 182 | 1968 | 3331 |
| Spec. Sedan, 4d | 1843 | 184 | 2027 | 3391 |
| DeL. Sedan, 2d | 1885 | 187 | 2072 | 3351 |
| DeL. Sedan, 4d | 1940 | 191 | 2131 | 3406 |
| DeL. Catalina | 2112 | 204 | 2316 | 3421 |
| Spec.St.Wg.,2st. | 2156 | 208 | 2364 | 3601 |
| Cus. Catalina | 2174 | 208 | 2382 | 3421 |
| Spec.St.Wg.,3st. | 2207 | 212 | 2419 | 3691 |
| DeL.St.Wg.,2st. | 2286 | 218 | 2504 | 3646 |
| Chieftain 8 | | | | |
| Spec. Sedan, 2d | 1858 | 185 | 2043 | 3396 |
| Spec. Sedan, 4d | 1913 | 189 | 2102 | 3451 |
| DeL. Sedan, 2d | 1955 | 193 | 2148 | 3416 |
| DeL. Sedan, 4d | 2010 | 196 | 2206 | 3466 |
| DeL. Catalina | 2182 | 210 | 2392 | 3491 |
| Spec.St.Wg.,2st. | 2226 | 213 | 2439 | 3676 |
| Cus. Catalina | 2244 | 214 | 2458 | 3491 |
| Spec.St.Wg.,3st. | 2277 | 217 | 2494 | 3771 |
| DeL.St.Wg.,2st. | 2356 | 223 | 2579 | 3716 |
| Star Chief 8 | | | | |
| DeL. Sedan, 4d | 2097 | 204 | 2301 | 3536 |
| Cus. Sedan, 4d | 2184 | 210 | 2394 | 3536 |
| Cus. Catalina | 2335 | 222 | 2557 | 3551 |
| DeL. Conv. Cpe. | 2403 | 227 | 2630 | 3778 |
| **STUDEBAKER** | | | | |
| Champion | | | | |
| Custom | | | | |
| Sedan, 2d | 1595 | 163 | 1758 | 2725 |
| Sedan, 4d | 1635 | 166 | 1801 | 2745 |
| De Luxe | | | | |
| Sedan, 2d | 1705 | 170 | 1875 | 2730 |
| Sedan, 4d | 1745 | 173 | 1918 | 2765 |
| Starlight Cpe. | 1795 | 177 | 1972 | 2740 |
| Conestoga | 1995 | 192 | 2187 | 2930 |
| Regal | | | | |
| Sedan, 2d | 1805 | 178 | 1983 | 2745 |
| Sedan, 4d | 1845 | 181 | 2026 | 2780 |
| Starlight Cpe. | 1895 | 185 | 2080 | 2750 |
| Starliner | 2045 | 196 | 2241 | 2825 |
| Conestoga | 2095 | 200 | 2295 | 2950 |
| Land Cruiser | 2315 | 218 | 2533 | 3210 |
| Commander | | | | |
| De Luxe | | | | |
| Sedan, 2d | 1940 | 196 | 2136 | 3075 |
| Sedan, 4d | 1980 | 199 | 2179 | 3105 |
| Starlight Cpe. | 2030 | 203 | 2233 | 3085 |
| Conestoga | 2230 | 218 | 2448 | 3265 |
| Regal | | | | |
| Sedan, 4d | 2080 | 207 | 2287 | 3120 |
| Starlight Cpe. | 2130 | 211 | 2341 | 3095 |
| Land Cruiser | 2220 | 218 | 2438 | 3180 |
| Starliner | 2280 | 222 | 2502 | 3175 |
| Conestoga | 2330 | 226 | 2556 | 3265 |
| **WILLYS** | | | | |
| Aero Lark | | | | |
| Sedan, 2d | 1589 | 148 | 1737 | ..... |
| Sedan, 4d | 1669 | 154 | 1823 | 2661 |
| Aero Ace | | | | |
| Sedan, 2d | 1735 | 157 | 1892 | 2751 |
| Sedan, 4d | 1805 | 163 | 1968 | 2778 |
| Aero Eagle | | | | |
| Hardtop | 1990 | 177 | 2167 | 2847 |

‡ Prices do not include delivery and handling charges. NA—Not available. * F.O.B. coastal port of entry.

# 1954 New Passenger Car Registrations by Makes by States*

| STATE AND MONTH | | Buick | Cadillac | Chevrolet | Chrysler | De Soto | Dodge | Ford | Hudson | Kaiser† | Lincoln | Mercury | Nash | Oldsmobile | Packard | Plymouth | Pontiac | Studebaker | Willys | Misc. Dom. | Foreign | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | July | 473 | 70 | 1753 | 75 | 35 | 108 | 1380 | 23 | 3 | 27 | 212 | 59 | 309 | 8 | 384 | 295 | 67 | 4 | 2 | 10 | 5,297 |
| | 7 Mos. | 3289 | 541 | 12899 | 549 | 322 | 860 | 11274 | 125 | 34 | 188 | 1782 | 322 | 2296 | 161 | 2689 | 2154 | 390 | 81 | 5 | 51 | 40,011 |
| Arizona | July | 216 | 45 | 532 | 41 | 24 | 62 | 531 | 13 | 3 | 25 | 121 | 63 | 188 | 23 | 138 | 94 | 56 | 26 | ..... | 10 | 2,211 |
| | 7 Mos. | 1239 | 316 | 3321 | 265 | 186 | 396 | 3649 | 83 | 40 | 136 | 788 | 255 | 909 | 118 | 1153 | 668 | 284 | 96 | 1 | 56 | 13,959 |
| Arkansas | July | 177 | 34 | 793 | 35 | 19 | 70 | 794 | 19 | 6 | 13 | 131 | 15 | 227 | 8 | 255 | 158 | 37 | 4 | ..... | 2 | 2,797 |
| | 7 Mos. | 1616 | 295 | 6572 | 291 | 226 | 595 | 6480 | 115 | 26 | 124 | 1073 | 171 | 1376 | 91 | 2056 | 1356 | 291 | 52 | ..... | 15 | 22,821 |
| California | July | 4174 | 1239 | 7044 | 493 | 446 | 792 | 8081 | 224 | 165 | 365 | 2678 | 628 | 3495 | 176 | 2194 | 1700 | 877 | 168 | ..... | 754 | 35,693 |
| | 7 Mos. | 24818 | 7567 | 54251 | 4021 | 3350 | 5935 | 59632 | 1217 | 615 | 2674 | 18051 | 4277 | 19631 | 1637 | 14822 | 12906 | 5802 | 903 | 2 | 4917 | 247,028 |
| Colorado | July | 296 | 78 | 931 | 82 | 41 | 127 | 909 | 39 | 3 | 51 | 215 | 82 | 309 | 26 | 284 | 165 | 56 | 40 | ..... | 9 | 3,734 |
| | 7 Mos. | 2122 | 507 | 6101 | 547 | 255 | 806 | 5970 | 214 | 34 | 295 | 1534 | 458 | 1729 | 219 | 1592 | 1333 | 370 | 143 | ..... | 66 | 24,295 |
| Connecticut | July | 802 | 185 | 1678 | 218 | 132 | 281 | 1988 | 105 | 18 | 52 | 371 | 162 | 667 | 65 | 810 | 513 | 138 | 35 | ..... | 129 | 8,349 |
| | 7 Mos. | 4912 | 1123 | 11345 | 1519 | 799 | 2074 | 12412 | 468 | 122 | 424 | 2849 | 1067 | 3781 | 468 | 4909 | 3663 | 986 | 247 | 1 | 667 | 53,816 |
| Delaware | July | 119 | 34 | 416 | 17 | 15 | 21 | 432 | 5 | 1 | 12 | 89 | 13 | 107 | 10 | 99 | 64 | 24 | 2 | ..... | 4 | 1,484 |
| | 7 Mos. | 843 | 198 | 2937 | 142 | 112 | 168 | 2567 | 36 | 3 | 94 | 511 | 70 | 743 | 50 | 673 | 633 | 160 | 31 | 1 | 39 | 10,011 |
| Dist. of Col. | July | 185 | 75 | 555 | 47 | 43 | 45 | 444 | 22 | 3 | 15 | 75 | 14 | 187 | 20 | 289 | 147 | 44 | 2 | ..... | 16 | 2,228 |
| | 7 Mos. | 1227 | 365 | 3850 | 337 | 251 | 412 | 3384 | 87 | 24 | 120 | 748 | 130 | 1656 | 166 | 1628 | 1103 | 221 | 31 | ..... | 96 | 15,238 |
| Florida | July | 847 | 249 | 2574 | 173 | 116 | 210 | 2249 | 77 | 13 | 63 | 582 | 146 | 775 | 70 | 769 | 519 | 214 | 66 | 1 | 62 | 9,795 |
| | 7 Mos. | 6216 | 1687 | 19096 | 1289 | 912 | 1695 | 19127 | 348 | 189 | 785 | 4093 | 899 | 4979 | 602 | 5301 | 3986 | 1493 | 462 | 10 | 609 | 73,778 |
| Georgia | July | 627 | 120 | 2741 | 93 | 49 | 185 | 2284 | 19 | 11 | 37 | 397 | 63 | 498 | 35 | 509 | 470 | 142 | 20 | ..... | 16 | 8,318 |
| | 7 Mos. | 4828 | 859 | 18211 | 820 | 492 | 1543 | 17120 | 190 | 129 | 302 | 3231 | 468 | 3689 | 299 | 4278 | 4259 | 955 | 169 | 2 | 107 | 61,951 |
| Idaho | July | 204 | 44 | 358 | 28 | 19 | 55 | 328 | 21 | 4 | 13 | 116 | 49 | 170 | 7 | 110 | 86 | 51 | 23 | ..... | 5 | 1,691 |
| | 7 Mos. | 1243 | 246 | 2442 | 196 | 167 | 329 | 2331 | 135 | 26 | 112 | 750 | 253 | 912 | 60 | 703 | 630 | 310 | 104 | ..... | 29 | 10,978 |
| Illinois | July | 3629 | 806 | 6233 | 537 | 406 | 855 | 6352 | 535 | 35 | 211 | 1580 | 610 | 3137 | 218 | 2486 | 1728 | 468 | 85 | 212 | 59 | 32,182 |
| | 7 Mos. | 25172 | 5307 | 58777 | 5075 | 3496 | 6659 | 53627 | 2622 | 414 | 1717 | 12434 | 4950 | 18800 | 2330 | 18519 | 14051 | 3946 | 605 | 1057 | 365 | 239,923 |
| Indiana | July | 1735 | 321 | 3868 | 230 | 210 | 447 | 3438 | 211 | 23 | 76 | 669 | 272 | 1244 | 70 | 1127 | 843 | 506 | 45 | ..... | 30 | 15,385 |
| | 7 Mos. | 10134 | 1829 | 26120 | 1912 | 1556 | 2950 | 25563 | 850 | 205 | 590 | 4280 | 1780 | 7308 | 694 | 7546 | 6198 | 3408 | 328 | 2 | 112 | 103,365 |
| Iowa | July | 728 | 120 | 2153 | 118 | 84 | 238 | 1869 | 67 | 16 | 32 | 362 | 117 | 694 | 33 | 644 | 465 | 169 | 12 | 1 | 7 | 7,929 |
| | 7 Mos. | 4966 | 767 | 16168 | 999 | 644 | 1704 | 16097 | 339 | 114 | 302 | 2938 | 846 | 3997 | 235 | 4009 | 3302 | 988 | 124 | 2 | 33 | 58,574 |
| Kansas | July | 683 | 126 | 1996 | 108 | 75 | 191 | 2019 | 97 | 23 | 47 | 401 | 157 | 556 | 17 | 623 | 419 | 163 | 23 | ..... | 8 | 7,732 |
| | 7 Mos. | 4281 | 755 | 13436 | 789 | 550 | 1351 | 13066 | 407 | 198 | 285 | 2641 | 932 | 3335 | 294 | 3517 | 2927 | 969 | 139 | ..... | 55 | 49,918 |
| Kentucky | July | 577 | 67 | 1652 | 57 | 35 | 143 | 1556 | 20 | 5 | 23 | 267 | 61 | 393 | 15 | 425 | 314 | 97 | 10 | 1 | 7 | 5,725 |
| | 7 Mos. | 3476 | 507 | 11844 | 501 | 382 | 1094 | 11355 | 133 | 59 | 146 | 1661 | 513 | 2550 | 205 | 2703 | 2472 | 770 | 86 | 5 | 30 | 40,492 |
| Louisiana | July | 508 | 100 | 2178 | 84 | 49 | 129 | 1592 | 10 | 9 | 28 | 262 | 60 | 477 | 11 | 430 | 402 | 146 | 6 | ..... | 10 | 6,491 |
| | 7 Mos. | 3296 | 656 | 15746 | 646 | 469 | 1113 | 12567 | 86 | 82 | 223 | 1966 | 391 | 2720 | 296 | 3837 | 3138 | 1036 | 65 | 1 | 61 | 48,395 |
| Maine | July | 179 | 28 | 595 | 35 | 37 | 81 | 328 | 39 | 1 | 10 | 103 | 61 | 134 | 14 | 282 | 133 | 45 | 18 | 1 | 10 | 2,135 |
| | 7 Mos. | 1220 | 176 | 3946 | 253 | 265 | 538 | 3207 | 183 | 46 | 89 | 744 | 278 | 751 | 115 | 1510 | 1013 | 370 | 121 | 2 | 50 | 14,877 |
| Maryland | July | 678 | 103 | 1981 | 109 | 102 | 192 | 1852 | 43 | 12 | 49 | 369 | 126 | 467 | 40 | 839 | 418 | 151 | 39 | ..... | 23 | 7,593 |
| | 7 Mos. | 4420 | 663 | 13314 | 983 | 696 | 1453 | 13657 | 300 | 109 | 309 | 2593 | 741 | 2841 | 419 | 4887 | 3351 | 931 | 218 | 1 | 187 | 52,073 |
| Massachusetts | July | 1259 | 254 | 3301 | 247 | 245 | 417 | 3512 | 167 | 12 | 74 | 710 | 362 | 1327 | 110 | 1409 | 901 | 243 | 50 | ..... | 138 | 14,738 |
| | 7 Mos. | 8474 | 1540 | 22009 | 1951 | 1726 | 2965 | 23823 | 911 | 187 | 629 | 4949 | 2590 | 8135 | 980 | 9239 | 7098 | 1664 | 428 | 3 | 689 | 99,990 |
| Michigan | July | 3724 | 809 | 7328 | 373 | 300 | 626 | 7925 | 210 | 28 | 170 | 1622 | 554 | 2899 | 160 | 1873 | 1701 | 325 | 76 | 2 | 50 | 30,755 |
| | 7 Mos. | 26186 | 6209 | 53844 | 3028 | 2376 | 4657 | 64879 | 1155 | 262 | 1574 | 11578 | 3039 | 18121 | 1694 | 12898 | 15101 | 2346 | 415 | 6 | 217 | 229,585 |
| Minnesota | July | 775 | 160 | 2294 | 116 | 102 | 190 | 2091 | 59 | 11 | 33 | 306 | 131 | 895 | 35 | 662 | 491 | 279 | 30 | ..... | 16 | 8,676 |
| | 7 Mos. | 6230 | 1062 | 18705 | 1307 | 977 | 1595 | 17789 | 532 | 155 | 360 | 3165 | 986 | 5299 | 579 | 5028 | 3622 | 1334 | 231 | 2 | 73 | 69,031 |
| Mississippi | July | 280 | 52 | 1087 | 38 | 31 | 74 | 727 | 3 | ..... | 15 | 159 | 27 | 235 | 4 | 232 | 183 | 48 | 6 | ..... | 2 | 3,203 |
| | 7 Mos. | 2122 | 343 | 9000 | 388 | 247 | 609 | 7598 | 76 | 21 | 107 | 1128 | 184 | 1436 | 65 | 2095 | 1609 | 334 | 70 | ..... | 11 | 27,443 |
| Missouri | July | 1200 | 258 | 3890 | 148 | 157 | 267 | 3852 | 49 | 19 | 59 | 739 | 204 | 1176 | 75 | 1193 | 743 | 215 | 25 | 1 | 15 | 14,285 |
| | 7 Mos. | 7020 | 1419 | 25047 | 1260 | 1214 | 1920 | 23594 | 300 | 144 | 469 | 4701 | 1282 | 6143 | 564 | 7539 | 5455 | 1422 | 184 | 1 | 103 | 89,781 |
| Montana | July | 144 | 50 | 439 | 46 | 29 | 80 | 490 | 31 | 3 | 19 | 98 | 37 | 175 | 25 | 144 | 87 | 58 | 17 | ..... | 2 | 1,974 |
| | 7 Mos. | 1073 | 259 | 3064 | 252 | 178 | 470 | 3233 | 198 | 29 | 102 | 723 | 220 | 1066 | 174 | 985 | 549 | 293 | 110 | 2 | 11 | 12,991 |
| Nebraska | July | 485 | 95 | 1374 | 78 | 35 | 122 | 1476 | 29 | 5 | 28 | 270 | 59 | 398 | 17 | 430 | 250 | 87 | 5 | ..... | 2 | 5,245 |
| | 7 Mos. | 3080 | 499 | 8784 | 580 | 315 | 835 | 9012 | 139 | 83 | 196 | 1837 | 344 | 2109 | 185 | 2319 | 1897 | 472 | 93 | ..... | 14 | 32,793 |
| Nevada | July | 64 | 12 | 109 | 8 | 9 | 26 | 99 | 4 | ..... | 4 | 24 | 19 | 52 | 6 | 35 | 19 | 43 | 7 | ..... | 5 | 543 |
| | 7 Mos. | 373 | 94 | 730 | 112 | 72 | 141 | 900 | 19 | 7 | 59 | 230 | 86 | 316 | 36 | 298 | 246 | 247 | 30 | ..... | 47 | 4,043 |
| New Hampshire | July | 124 | 24 | 406 | 25 | 16 | 56 | 300 | 38 | 2 | 7 | 77 | 43 | 107 | 8 | 172 | 133 | 28 | 11 | ..... | 9 | 1,586 |
| | 7 Mos. | 849 | 149 | 2995 | 225 | 173 | 445 | 2429 | 226 | 32 | 76 | 519 | 315 | 706 | 85 | 1101 | 884 | 256 | 102 | 2 | 57 | 11,627 |
| New Jersey | July | 1682 | 481 | 3956 | 505 | 311 | 519 | 4167 | 208 | 28 | 122 | 1369 | 259 | 1535 | 161 | 1772 | 1242 | 318 | 69 | ..... | 128 | 18,832 |
| | 7 Mos. | 10957 | 2796 | 26046 | 4188 | 2415 | 3796 | 28490 | 1011 | 219 | 978 | 9430 | 2038 | 8668 | 1463 | 12090 | 9729 | 2310 | 584 | ..... | 696 | 127,904 |
| New Mexico | July | 182 | 46 | 454 | 30 | 17 | 55 | 316 | 12 | 3 | 20 | 103 | 17 | 174 | 6 | 140 | 111 | 32 | 6 | ..... | 3 | 1,727 |
| | 7 Mos. | 1279 | 240 | 3212 | 301 | 143 | 381 | 2955 | 63 | 18 | 130 | 750 | 144 | 961 | 62 | 921 | 799 | 224 | 53 | 1 | 29 | 12,666 |
| New York | July | 4256 | 1048 | 8524 | 1019 | 715 | 1393 | 7532 | 383 | 90 | 306 | 2166 | 677 | 3925 | 254 | 4169 | 2992 | 662 | 200 | 12 | 293 | 40,616 |
| | 7 Mos. | 28941 | 6258 | 62545 | 8987 | 6613 | 10585 | 62934 | 2025 | 642 | 2334 | 17368 | 4926 | 22385 | 2572 | 28479 | 22927 | 4776 | 1425 | 265 | 1636 | 298,623 |
| North Carolina | July | 615 | 153 | 2366 | 125 | 97 | 192 | 2402 | 44 | 7 | 38 | 340 | 79 | 518 | 41 | 597 | 470 | 124 | 22 | ..... | 10 | 8,240 |
| | 7 Mos. | 4494 | 911 | 14861 | 796 | 586 | 1354 | 14663 | 222 | 57 | 279 | 2353 | 559 | 3525 | 339 | 4028 | 3667 | 729 | 189 | ..... | 91 | 53,703 |
| North Dakota | July | 131 | 27 | 352 | 30 | 24 | 44 | 399 | 9 | 3 | 8 | 57 | 20 | 132 | 6 | 137 | 55 | 30 | 4 | ..... | 4 | 1,472 |
| | 7 Mos. | 955 | 163 | 3319 | 240 | 195 | 340 | 3484 | 56 | 18 | 65 | 579 | 207 | 798 | 61 | 1109 | 514 | 178 | 18 | 1 | 9 | 12,309 |
| Ohio | July | 3255 | 636 | 6230 | 412 | 443 | 781 | 6306 | 316 | 83 | 172 | 1457 | 432 | 2377 | 191 | 2181 | 1796 | 414 | 118 | 3 | 74 | 27,677 |
| | 7 Mos. | 20345 | 4096 | 45747 | 3725 | 3303 | 6252 | 49537 | 1426 | 530 | 1327 | 10684 | 3122 | 14377 | 1863 | 13911 | 13960 | 3029 | 748 | 14 | 385 | 199,381 |
| Oklahoma | July | 582 | 96 | 2231 | 100 | 82 | 152 | 1569 | 36 | 2 | 70 | 496 | 72 | 637 | 28 | 433 | 369 | 118 | 8 | ..... | 8 | 7,089 |
| | 7 Mos. | 3575 | 583 | 12216 | 500 | 396 | 811 | 11893 | 156 | 25 | 315 | 2547 | 390 | 2990 | 183 | 2446 | 2391 | 603 | 62 | ..... | 52 | 42,134 |
| Oregon | July | 457 | 93 | 1049 | 73 | 40 | 238 | 1026 | 141 | 8 | 22 | 247 | 99 | 510 | 14 | 286 | 232 | 149 | 46 | ..... | 22 | 4,752 |
| | 7 Mos. | 2894 | 617 | 7506 | 598 | 597 | 1126 | 7586 | 291 | 87 | 245 | 1732 | 839 | 2831 | 260 | 2351 | 1492 | 735 | 174 | ..... | 178 | 32,139 |
| Pennsylvania | July | 3214 | 629 | 9250 | 683 | 551 | 1101 | 6988 | 366 | 57 | 204 | 1573 | 513 | 2396 | 340 | 3341 | 2045 | 490 | 151 | ..... | 87 | 33,979 |
| | 7 Mos. | 20747 | 3713 | 52028 | 5084 | 3960 | 7075 | 47959 | 1598 | 474 | 1302 | 10588 | 3389 | 14990 | 2588 | 20589 | 14295 | 3056 | 912 | 4 | 458 | 214,809 |
| Rhode Island | July | 228 | 65 | 556 | 34 | 34 | 64 | 302 | 31 | 3 | 19 | 145 | 62 | 175 | 11 | 275 | 117 | 46 | 8 | ..... | 23 | 2,198 |
| | 7 Mos. | 1417 | 299 | 3442 | 345 | 218 | 535 | 3550 | 164 | 38 | 114 | 854 | 484 | 1102 | 99 | 1591 | 990 | 377 | 53 | ..... | 154 | 15,826 |
| South Carolina | July | 393 | 62 | 1633 | 46 | 40 | 113 | 1578 | 37 | 6 | 17 | 175 | 40 | 352 | 19 | 398 | 243 | 81 | 9 | ..... | 16 | 5,258 |
| | 7 Mos. | 2370 | 370 | 8865 | 299 | 266 | 670 | 7957 | 142 | 24 | 125 | 1064 | 174 | 1761 | 117 | 2129 | 1749 | 312 | 78 | ..... | 73 | 28,545 |
| South Dakota | July | 244 | 28 | 621 | 37 | 29 | 82 | 636 | 18 | 6 | 17 | 102 | 38 | 200 | 10 | 215 | 100 | 43 | 9 | ..... | ..... | 2,435 |
| | 7 Mos. | 1194 | 160 | 3617 | 242 | 164 | 474 | 3421 | 98 | 45 | 84 | 624 | 221 | 885 | 120 | 1128 | 621 | 238 | 61 | ..... | 2 | 13,397 |
| Tennessee | July | 550 | 117 | 2090 | 54 | 61 | 165 | 1616 | 25 | 3 | 30 | 234 | 49 | 466 | 29 | 575 | 343 | 95 | 15 | ..... | 8 | 6,525 |
| | 7 Mos. | 4278 | 693 | 16010 | 638 | 571 | 1369 | 14702 | 207 | 54 | 234 | 2104 | 507 | 2972 | 274 | 4634 | 3026 | 742 | 120 | 1 | 75 | 53,211 |
| Texas | July | 3183 | 626 | 10052 | 359 | 195 | 537 | 8451 | 104 | 28 | 224 | 1915 | 257 | 3022 | 81 | 1668 | 1848 | 402 | 29 | 1 | 31 | 33,013 |
| | 7 Mos. | 17941 | 3664 | 58679 | 2774 | 1511 | 4320 | 53684 | 530 | 203 | 1478 | 12262 | 1595 | 14617 | 744 | 13036 | 12932 | 2931 | 287 | 11 | 204 | 203,403 |
| Utah | July | 183 | 41 | 366 | 28 | 24 | 38 | 344 | 9 | 4 | 10 | 99 | 35 | 167 | 5 | 97 | 102 | 24 | 5 | ..... | 3 | 1,584 |
| | 7 Mos. | 1232 | 240 | 2535 | 284 | 195 | 288 | 2361 | 84 | 22 | 101 | 656 | 197 | 1102 | 80 | 668 | 752 | 166 | 62 | ..... | 24 | 11,049 |
| Vermont | July | 85 | 17 | 243 | 19 | 12 | 28 | 151 | 11 | 2 | 2 | 46 | 41 | 53 | 4 | 128 | 50 | 31 | 12 | ..... | 5 | 940 |
| | 7 Mos. | 632 | 100 | 1966 | 191 | 95 | 275 | 1708 | 49 | 15 | 38 | 341 | 238 | 365 | 57 | 850 | 487 | 132 | 68 | ..... | 35 | 7,642 |
| Virginia | July | 627 | 140 | 2334 | 145 | 129 | 207 | 2227 | 133 | 13 | 47 | 470 | 115 | 547 | 36 | 856 | 515 | 170 | 17 | 1 | 51 | 8,780 |
| | 7 Mos. | 5278 | 985 | 16558 | 1318 | 981 | 1882 | 18556 | 696 | 197 | 388 | 3570 | 870 | 4023 | 540 | 6273 | 4363 | 1232 | 194 | 4 | 408 | 68,316 |
| Washington | July | 603 | 110 | 1596 | 124 | 96 | 201 | 1645 | 78 | 18 | 43 | 313 | 194 | 595 | 44 | 567 | 305 | 182 | 36 | 1 | 84 | 6,835 |
| | 7 Mos. | 2998 | 549 | 8431 | 733 | 655 | 1176 | 9699 | 317 | 89 | 273 | 1952 | 1040 | 2880 | 365 | 3089 | 1780 | 910 | 170 | 2 | 351 | 37,459 |
| West Virginia | July | 342 | 56 | 913 | 89 | 58 | 155 | 983 | 29 | 3 | 18 | 178 | 62 | 242 | 29 | 409 | 216 | 74 | 9 | 1 | 7 | 3,873 |
| | 7 Mos. | 1924 | 324 | 5517 | 492 | 317 | 772 | 5526 | 134 | 35 | 117 | 1000 | 299 | 1251 | 224 | 2264 | 1434 | 342 | 115 | 1 | 18 | 22,106 |
| Wisconsin | July | 1221 | 178 | 2242 | 150 | 127 | 268 | 2165 | 91 | 25 | 58 | 383 | 322 | 1009 | 70 | 642 | 581 | 191 | 40 | 1 | 24 | 9,788 |
| | 7 Mos. | 7600 | 1089 | 16356 | 1097 | 908 | 1858 | 17498 | 528 | 155 | 367 | 3013 | 2110 | 5610 | 476 | 4381 | 4693 | 1306 | 279 | 3 | 122 | 69,449 |
| Wyoming | July | 126 | 26 | 227 | 18 | 12 | 24 | 201 | 16 | 4 | 6 | 37 | 22 | 96 | 6 | 58 | 48 | 10 | 11 | ..... | 3 | 951 |
| | 7 Mos. | 864 | 172 | 1916 | 171 | 99 | 176 | 1634 | 73 | 9 | 55 | 396 | 145 | 697 | 60 | 411 | 404 | 75 | 59 | ..... | 7 | 7,423 |
| Location Not Determinable | July | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| | 7 Mos. | ..... | ..... | 1470 | ..... | ..... | ..... | 331 | ..... | ..... | ..... | 2 | ..... | 27 | ..... | 7 | ..... | ..... | ..... | ..... | ..... | 1,837 |
| Total | July, 1954 | 47051 | 10233 | 119544 | 7738 | 5958 | 12447 | 109893 | 4276 | 830 | 3031 | 24910 | 7599 | 40426 | 2691 | 37791 | 27221 | 8463 | 1679 | 241 | 2294 | 474,316 |
| Total | July, 1953 | 43194 | 9752 | 128040 | 14321 | 11185 | 26856 | 99178 | 6236 | 3240 | 4435 | 22270 | 12178 | 32923 | 6470 | 54864 | 39352 | 13450 | 3140 | 210 | 2489 | 533,783 |
| Total | 7 Months, 1954 | 306640 | 63960 | 817398 | 63231 | 46596 | 90827 | 816470 | 21362 | 6345 | 22836 | 177366 | 51341 | 235551 | 25368 | 254219 | 208609 | 56431 | 11379 | 1415 | 13774 | 3,291,116 |
| Total | 7 Months, 1953 | 279938 | 66213 | 798122 | 95876 | 73780 | 187239 | 574678 | 44792 | 25747 | 25998 | 141738 | 98718 | 201254 | 51009 | 357233 | 242733 | 97501 | 30495 | 1812 | 18932 | 3,413,800 |

* Data from R. L. Polk & Co. † Includes Henry J.

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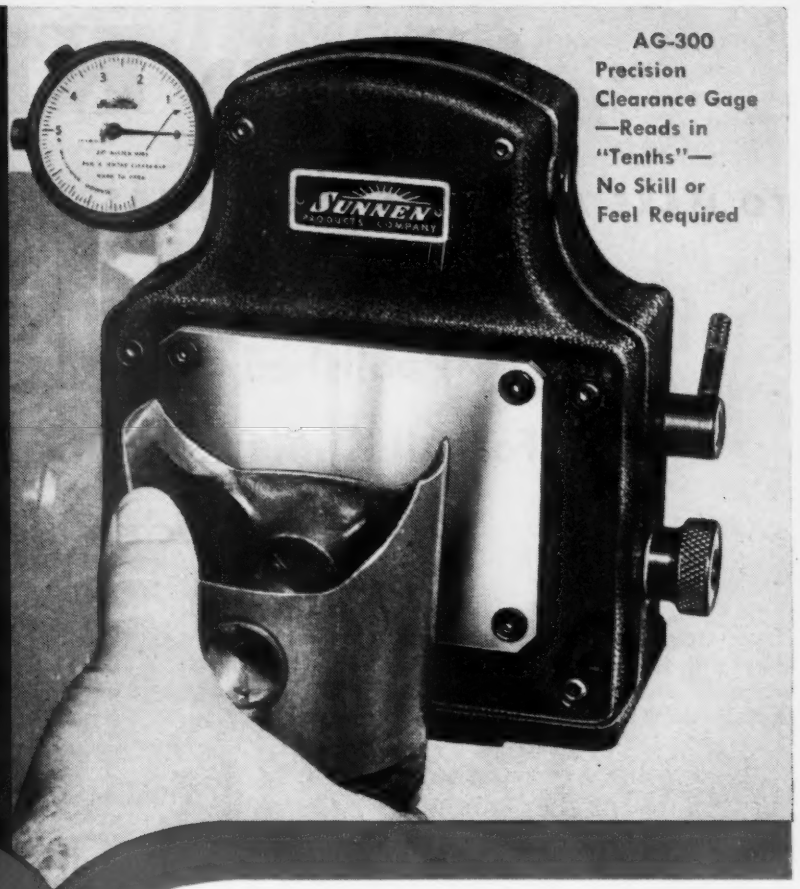


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*The figures show that these shops now handle more volume in less time than ever before. Customers are satisfied, "comebacks" are eliminated and shop profits are up.*

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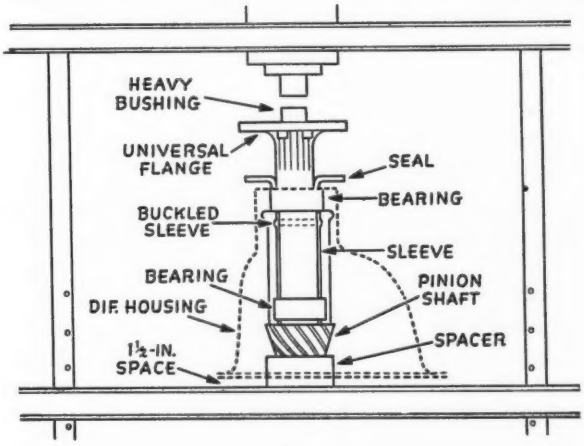
### Simple Trick in Tuning Dodge V-8 Engine

The intake manifold plug of the Dodge V-8 is almost inaccessible for tuning purposes. To make the job easier we drill and tap for a ⅛ pipe plug on the flat surface of the intake where it enters No. 1 cylinder. (Grease is used on the drill and tap so metal particles don't drop inside.) We attach a vacuum gage at this point to tune the engine and so on. A pipe plug seals the hole when the job is done. *Lloyd W. Hawk, 305 W. Race St., Pottsville, Penna.*

### A Way to Eliminate Timing Gear Noise

On 1950 and later Ford V-8 and Mercury engines, sometimes the timing gear becomes worn and noisy. We eliminate the trouble in this manner. First, we remove the camgear and the slotted pipe plug from the main oil passage through the center of the block, immediately behind the gear. Then we drill a 1/16-inch hole in this plug and replace it. This will allow sufficient oil to lubricate the gear. *J. L. Hood, Hood's Sales & Service, 7431 Calumet Ave., Hammond, Indiana.*

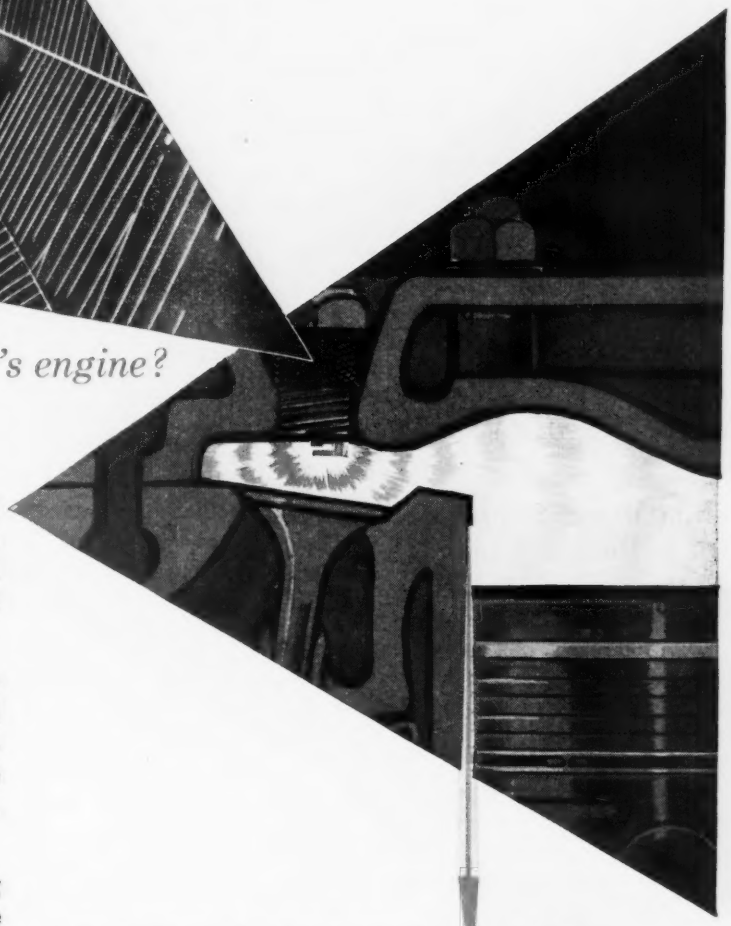



### Preloading Differential Pinion

**To preload a differential pinion I first install all pinion shaft parts, including pinion shaft oil seal. Then I place spacer block on a press bed. The spacer block should hold the rear housing off press bed 1½ inches. Next I put the differential unit on the press with spacer block centered under the pinion gear. A heavy bushing is then placed around the pinion shaft. After this the universal flange is pressed down to collapse the pinion shaft sleeve. Care is taken not to go all the way down, as the final preload adjustment is to be made with the pinion shaft nut. While pressing down on shaft, I work the rear housing up and down by hand to insure that adjustment is not too tight. The purpose of this method is to save the hard pulling required to collapse the pinion shaft sleeve. *Weigle Bros., 28 N. 55th Street, Phila. 39, Pa.***

# WHICH IS *THINNER?*

*The finest thread of a spider's web...*



*or the oil film that protects a car's engine?*

Incredible...but even though the finest thread in a cobweb measures only .00024 of an inch in diameter*, it is still *10 times thicker* than the oil film that lubricates the top of cylinders and pistons.

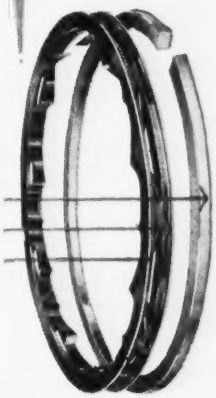
Old style top piston rings, operating where lubrication is poorest, pressure is greatest and heat is highest, wear more than twice as fast as modern chrome rings. That's why engine manufacturers use chrome-plated top rings... and 34 out of the 36 install Perfect Circles.

In Perfect Circle's 2-in-1 Chrome Piston Ring Set, BOTH the top ring AND the oil ring rails are plated with thick, solid chrome, for complete wear protection. This means thousands and thousands of extra miles of sustained power and lasting oil economy for your customers!

Perfect Circle Corporation, Hagerstown, Ind.; The Perfect Circle Co., Ltd., Toronto, Ontario.

**Source of information on request*

Protection where lubrication is poorest



**SOLID CHROME PLATING on both top and bottom rings gives complete wear protection throughout entire area of ring travel. Rings are lapped-in at factory, making tedious break-in unnecessary.**

# Perfect Circle

**2 in 1 chrome piston rings** *The Standard of Comparison*

# Shop Kinks . . . . . Continued from Page 64

## Method to Replace Hard To Get at Spark Plugs

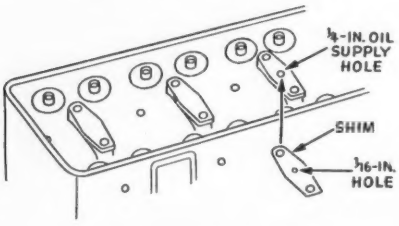
Some of the new cars and trucks have spark plugs placed in positions that make them hard to get at when replacing them. I use a short piece of rubber hose, 6 or 8 inches long, that fits over the porcelain tight enough to turn the plug. After the plug is started I slip the hose off and tighten with a socket. *August Koop, Koop's Garage, Upton, Wyoming.*

## Hose Used to Repair Worn Stop Light Switch

We've found a way to solve the problem when a Chevrolet's stop light switch fails to turn off due to a worn arm and switch. A piece of air hose 1½ inches long with a ⅜-inch opening is slipped over the switch arm and the switch will return to normal operation. *Blue's Conoco Serv., Oakland City, Ind.*

## Shim Meters Supply of Oil to Rocker Arms

I have a remedy for extreme cases of oil consumption and plug fouling due to oil passing past valve stems. I cut a piece of shim stock as shown, make a 1/16-inch hole in




it and insert it between the rocker arm support and head. The small hole reduces the oil supply to the rocker arms. *Lyle Elyca, 830 Iowa, Addison, Ill.*

## Way to Stop Squeak in Buick Steering Column

I've found that eventually a Buick will develop an annoying squeak that seems to come from the steering wheel every time it is turned. To stop it I drill a 1/16-inch hole through the top of the steering column housing and squirt some oil or grease into it. To be sure the column's bronze bushing is accessible standard transmission cars must be in low gear and Dynaflow must be in reverse. *Elwood O. Page, St. George Service Co., 254 N. 300 W., St. George, Utah.*

## Method to Remove Woodruff Gear Keys

To remove pulley or gear keys that cannot be punched out from behind, we file a small groove in the key. Then lay a short piece of stiff wire in the groove. Clamp it tight with vise-grip pliers and apply a chisel wedge on the nose of the pilers and the key will back out. *Stanley Clark, Box 222, East Bradenton, Florida.*

## Save Time on Cadillac Window Motor Replacement

I have found, that it is not necessary to remove the window glass, regulator or drill the hole in the regulator to hold the spring. This is how I replace motors:

1—All rear quarter windows, remove seats, upholstery and loading hold covers. On convertibles raise the top half-way. Raise the window and (if the window is stuck it can usually be raised by holding switch and tapping the motor).

Now, you can reach in and unbolt the motor.

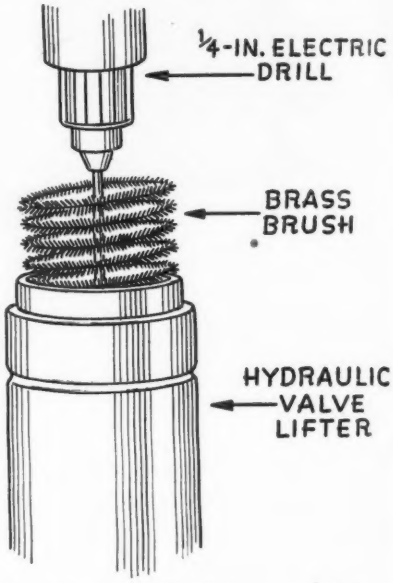
2—All doors—remove the two screws where the upholstery goes under the garnish molding. Now, remove the two or four screws from the bottom of the door. Tap the nails with a hammer, till upholstery is free. It may now be raised up and out. Remove hole covers—reach in and locate the three bolts holding the motor to the regulator. Now, with a ¾ inch hole-saw, cut out a hole over each bolt. The motor may now be unbolted and removed.

On Coupe De Villes, it will not be necessary to drill the holes.

Before replacing upholstery put some heavy tape over the holes that you cut. This operation saves one hour on all quarter windows—one to two hours on all doors. *Mike Allum, 9674 N.W. 10th Ave., Miami 38, Fla.*

## Shotgun Brushes Used For Cleaning Lifters

To clean hydraulic valve lifters that are sticking on '53 and '54 Dodge V-8's, we take a brass wire brush designed to clean the bore on a shotgun which fits perfectly inside the valve lifters. The head of the brush is inserted into a ¼-inch




electric drill which is secured in a vise. With the drill in operation, the lifter is held in hand and rotated the length of brush until clean. This method can be applied to any lifter, with brushes of various sizes. *Alfred J. Picha, Frand Motor Co., Hutchinson, Minnesota.*

## Use White Lead on Head Gasket Jobs

We find head gasket failures are caused by the water coming up by the head bolt threads. In order to stop this we use white lead as a sealer on the threads. It is an excellent sealer. To keep can of white lead from drying out, insert a match stem first into the can and light this with another match. This vacuum seals the can and keeps it fresh for every time I use it. *T. W. Johnson, 924 Kellog Ave., Ames, Iowa.*

# Make more Ford owners notice you!

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Ford owners want the replacement parts they know are made right for their Fords—Genuine Ford Parts. By getting the blue Ford Parts sign to hang outside your shop you can set yourself up to attract a lot more business. And you'll do something else, that's mighty important, too!

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**Ford Division, Ford Motor Company, Box 658, Dearborn, Michigan**

Please send me complete information telling me how independent garages can get a Genuine Ford Parts sign. I'd like to cash in on this, too.

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ADDRESS _____

CITY _____ STATE _____ H

# Powerflite . . . . . Continued from Page 49

### Throttle Linkage and Throttle Valve Oil Pressure Adjustment

Remove any binding that may exist in the throttle linkage. Make sure the throttle valve in the carburetor is fully open when the accelerator is depressed and is fully closed when the accelerator is released. Adjust the accelerator shaft to the carburetor to provide ample accelerator pedal travel for full open and closed throttle. Check the adjustment by depressing the accelerator slowly, opening of the kick down valve should be felt as the carburetor throttle valve approaches the full open position. With the hand lever in neutral, the brakes set, and the engine running at operating temperature, adjust the idle speed to 475-500 rpm. Remove the plug from the throttle pressure test (takeoff) point on the right side of the case just behind the front servo. Connect a pressure gage. With the engine idling and the hand lever at drive, disconnect the throttle control lever, which is the upper of the two levers on the left side of the transmission case. Move the lever forward and back. There should be a pressure change apparent on the gage.

Position the throttle control lever so it is approximately 30 degrees toward the front of the car from a right angle to the transmission centerline. The gage should read 13 to 15 psi. If it does not, the throttle valve oil pressure requires adjustment.

To adjust the throttle pressure, remove the throttle valve adjusting screw plug. It is the ⅜ inch pipe plug just below and forward of the back up light switch on the left side of the transmission case. Have a can handy as about a quart of transmission fluid will gush out. Turn the adjusting screw, revealed by removal of the plug, clockwise to decrease the pressure and counterclockwise to increase it. Adjust the pressure to 14 psi.

Reinstall the plug and tighten to 20-25 ft lbs. Reconnect the throttle control rod to the lever and depress the accelerator. The pressure should rise at once to 80 psi. If it does not and yet is 14 psi at idle, the linkage requires adjustment.

Disconnect the swivel at the transmission end of the throttle valve control rod from the rod, leaving the swivel attached to the throttle control lever.

Now move the lever forward as far as it will come and then slowly move it back until a slight resistance is felt. From this point of slight resistance a slight rearward movement of the lever should cause the pressure to rise to 80

(*Continued on page* 70)


**MEASURE ALL AUTOMOTIVE PARTS WITH 1 MIKE!**

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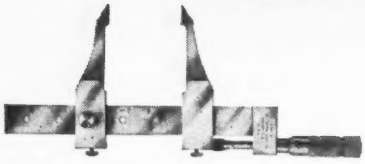
CENTRAL Range Micrometer No. 44 has a range from 0" to 4" by thousandths: Its three interchangeable extensions permit it to measure anything from a pin to a large piston. Made throughout to CENTRAL's high standards of Certified Accuracy, this fine mike has many features including an anvil of patented design which eliminates gagging on work of large diameter. All bright parts are protected by a beautiful Satin Chrome finish and the frame is a rugged steel forging, black enamelled for a sure grip. Ask your jobber or write . . .



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Range 0" to 5", measures journal without removing crankshaft from engine.

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Range 1½" to 2½", makes this special tool ideal for measuring crankshafts and other automotive parts. Graduations on under side of barrel for easy reading.

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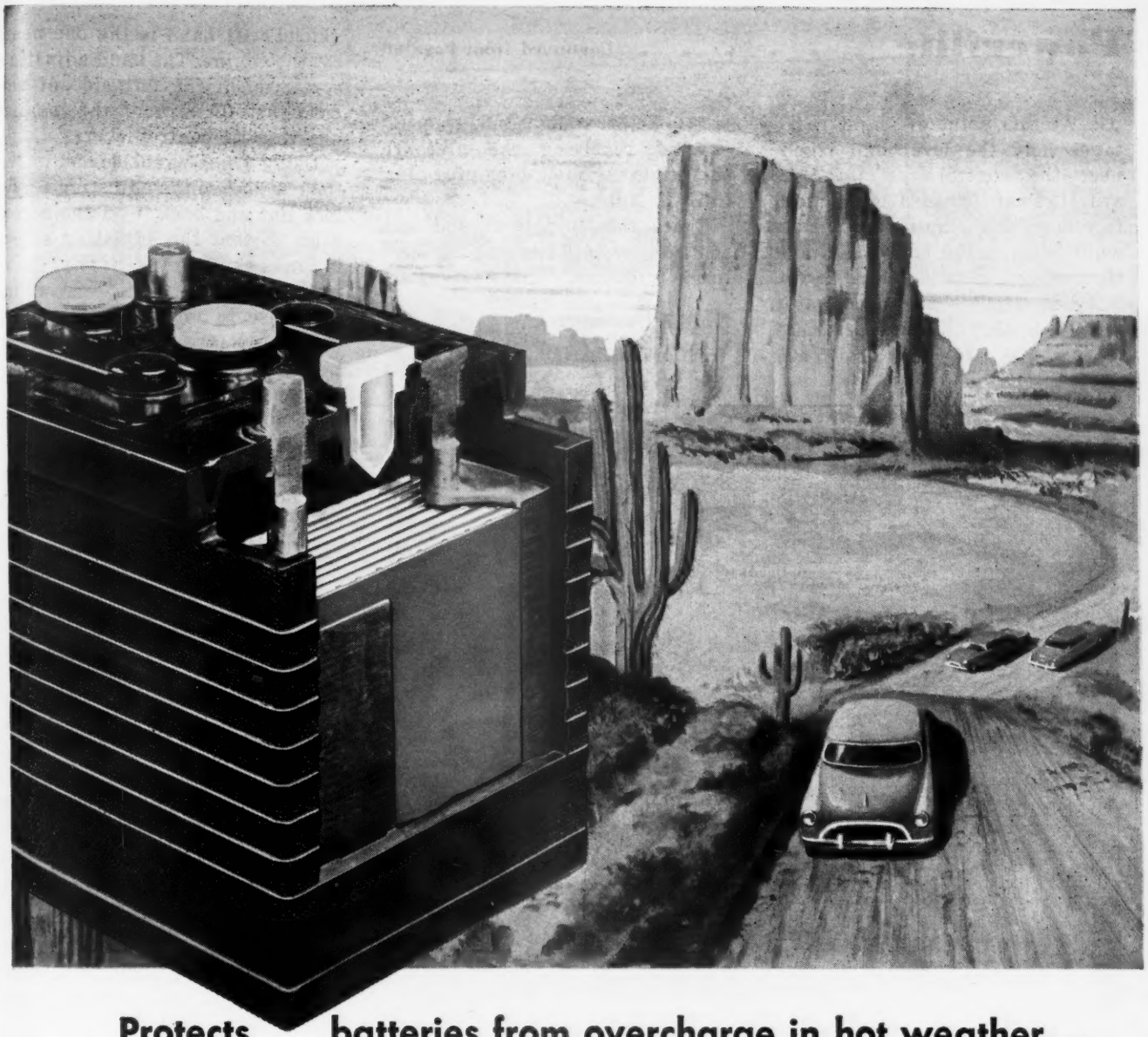
*ASK FOR CATALOG 43*

**SPECIALISTS IN FINE MICROMETERS FOR HALF A CENTURY**


**More cars and trucks are now being scrapped in one year than were produced in the U. S. from 1900 to 1915 combined.**



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# the U. S. Peerless MICROPOROUS Rubber Battery Separator

U. S. Peerless Microporous Rubber Battery Separators gain electrical resistance when the thermometer goes up. Result: they help to protect the battery against overcharge. Also because they have a thin web and narrow ribs, they permit the greater acid circulation that makes a battery run cooler and give full power under all conditions. They will withstand the excessive oxidizing conditions developed during overcharge throughout battery life.

Peerless separators safeguard the dollars your customers pay for batteries. Peerless cannot be harmed by battery acid or plate pressures. High mechanical strength prevents cutting by warped or broken plates. In fact, Peerless separators outlast the plates. In cold weather, they deliver 20% faster cranking speed, 10% more power. Your trade gets long battery life and operating savings when you stock and sell batteries equipped with U. S. Peerless Microporous Rubber Separators.

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**UNITED STATES RUBBER COMPANY**

**Electrical Wire and Cable Department • Rockefeller Center, New York 20, N. Y.**

## Powerflite . . . . . Continued from Page 68

psi. At this point of slight resistance hold the lever and reconnect the control rod into the swivel. Push forward on the rod to remove any play in the linkage while making the connection and tightening the swivel lock screw.

Again depress the accelerator and check that the pressure rises from 14 psi at an idle of 475-500 rpm to 80 psi at 1400-1500 rpm.

After removing the pressure gage tighten the ⅛ inch pipe plug to 10-12 ft lbs.

Check the fluid level and add enough new fluid to bring the level to the full mark.

### Band Adjustment

FRONT BAND . . . The low (kickdown) band is the one nearest the engine. The band adjusting screw is on the left side of the case just forward of the manual and throttle control levers.

Using a box wrench from under the car, loosen the adjusting screw lock nut and back it off the screw a bit so that the adjusting screw is loose and turns freely. Now tighten the adjusting screw in, clockwise, to 5-6 ft lbs (60-72 inch pounds). Next back the screw out exactly three full revolutions. Hold the screw and tighten the lock nut to 35-40 ft lbs.

REAR BAND . . . The rear (reverse) band adjusting screw is in the bottom right rear corner of the case. It is a part of the rear servo linkage.

Drain the transmission and remove the oil pan. Loosen the band adjusting screw lock nut and tighten the adjusting screw (clockwise) to 1¾-2 ft lbs (20-25 inch pounds). Now back the screw out ten (10) complete turns. Hold the screw and tighten the lock nut to 30-35 ft lbs.

Replace the transmission oil pan and refill the transmission.

### Fluid Requirements—Draining and Filling

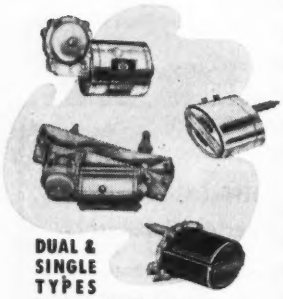
Check the fluid level every 1,000 miles. Measure the fluid with the engine at operating temperature and idling at 475-500 rpm. Have the hand lever at neutral, after having moved the shift lever through all the positions so as to fill all the servos.

Change the fluid every 20,000 miles. Use AQ-ATF Type A

(*Continued on page 72*)

**with AMERICAN BOSCH CONSTANT ELECTRIC ACTION WINDSHIELD WIPERS**

The National Safety Council says—*"Safe Driving Depends on Good Vision . . . Keep Windshields Clean."* American Bosch Electric Windshield Wipers assure this CONSTANT GOOD VISION in bad weather. Independent of engine vacuum, speed or load, on upgrades or during acceleration, they *always* function *steadily!*



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Dual and Single types, including new models that operate large-size arms and blades up to 20" in length. Heavy-duty American Bosch construction guarantees years of trouble-free service. In wide use as original equipment, these Electric Wipers are today's positive answer to good vision in bad weather. That's why they spell Sales action for you! Write now for details. American Bosch, Springfield 7, Mass.

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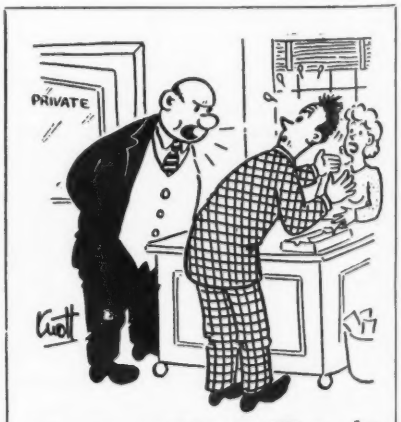
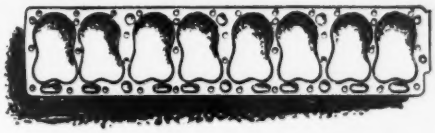



**"Continue, Milton! What else would you do if you were running this business for just one day?"**



The average annual mileage traveled by America's cars and trucks has just about doubled the past 30 years, making it specially important today that the gasket designed to seal the power in the engine does its job without fail.

FITZGERALD GASKETS equal or surpass original equipment standards in compressibility, resiliency and strength — three factors adding up to a lasting, perfect seal in today's high compression engines.

Stocked by leading jobbers throughout the nation . . . sold abroad exclusively since 1936 by the world's largest manufacturer of automobiles.

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**ALSO . . . OIL SEALS • CORK GASKETS • FITZ-RITE TREATED FIBER GASKETS FOR OIL, GASOLINE AND WATER CONNECTIONS • COMPLETE SETS FOR MOTOR REBUILDERS.**

# Powerflite . . . . . Continued from Page 70

The filler pipe and dip stick are to be found at the lower right hand corner of the engine block except on some models, such as convertibles and hard tops, where it is accessible through a hole under the floor mat in the floor pan on the right side of the tunnel.

Fluid should be at the full mark, no more, no less. Capacity after overhaul: 12½ qts. Capacity after draining: 11 qts.

Remove the drain plug from the left front lower corner of the transmission oil pan. Remove the access plate from the bottom of the torque converter bell housing. Rotate the converter until the drain plug, which is to the rear of the starter ring gear, points down. Remove the plug and drain the fluid.

Tighten the oil pan drain plug to 20-25 ft lbs, the converter drain plug to 45-50 ft lbs.

Pour in 5 quarts of Type A fluid and run the engine for two minutes with the hand lever at neutral. Pour in 6 more quarts and allow engine to idle until it reaches operating temperature. Move the hand lever to all the positions in order to fill the servos and return it to neutral. Measure the level and add more fluid or drain some to bring the level to the full mark. Do not overfill the transmission.

### Starting the Car Without The Use of the Starter

Always push the car to start the engine when the starter is not working. Towing the car is dangerous as the towed car is likely to ram the towing car. Turn on the ignition switch. Have the car pushed with the hand lever held at neutral. When the speed of the car reaches 25 mph or more, move the hand lever to low. The engine should turn over.

### Towing the Car

When the transmission is in neutral the car may be towed indefinitely at moderate speeds. Definite damage would result to the transmission with the manual control valve in any other position. If the transmission has been damaged, tow the car with the rear wheels off the ground. If this is impractical, disconnect the drive shaft from the transmission.

While Chadwick daydreams why don't you do something about cashing in on high-profit Hydra-Matic special service? See your local Kent-Moore Jobber for the "Rate-Maker" Tools you need!

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## Safe, strong, beautiful, really portable!

Built like a lift-truck for strength and powered by a "service-proved" Blackhawk hydraulic unit for safe, sure lifting. Aircraft type control knob provides easy *one-hand* release of both jack and safety lock. Fully enclosed, simple, rugged construction. No trunk obstruction — only the lifting bar rises. Smooth, swift, tricycle positioning. And because it's hydraulic, you can use it anywhere.

Yes, sir, here's the right jack for the job. Place your order *today* with your Blackhawk jobber for delivery in a few weeks. Be the first to save time with the Service Chief.

**Ask for Model SJ-25**

**$79.85** Suggested Dealer Net

# BLACKHAWK®

*A product of* BLACKHAWK MFG. CO., Dept. J-6104, Milwaukee 46, Wis.

# Hydraulic Lifters . . . . Continued from Page 43

Disassemble one lifter at a time to avoid getting parts mixed. If difficulty is experienced when removing the plunger from the cylinder, it is due to carbon building up above the plunger and below the plunger spring. To remove a stuck plunger from the lifter barrel, good results have been attained by placing a small drift against the plunger and then placing the drift and plunger in a vise. Squeezing the plunger in and out a couple of times will usually loosen the varnish. Then dip the unit in a solvent and let it soak awhile. The plunger can be pulled out with a piece of wire or a pair of tapered snap ring pliers. Carefully clean and inspect each part and reassemble the unit.

### Checking for Proper Leak Down

To make a leak-down test after unit has been cleaned and assembled. Submerge the unit in a pan of kerosene and insert a metal pin in the oil inlet to unseat the ball in the lifter. Depress the plunger several times so that it will fill up with kerosene. Then let the ball seat itself and remove the whole unit from the kerosene pan. Hold the lifter in an upright position and apply a constant pressure with pliers. If plunger collapses almost instantly the unit should be replaced.

### Initial Adjustment of Lifters

Since hydraulic valve lifters operate the valves at zero clearance it is most important that the manufacturer's settings be adhered to. On all jobs except where mechanical adjustment is provided the clearance between the lifter and the bottom of the valve or between the top of the valve stem on (overhead valve engines) the lifter should be depressed until all oil is forced out. In this position there should be .030 to .070 inch clearance at the tappet.

If less than .030 inch exists grind off the top of the valve stem to obtain the proper clearance. If more than .070 inch worn parts will have to be replaced. The above checks should be made with piston on top center and both valves closed.

*Repairs cracked rim in wheel by butt welding with "Fleetweld 7" using "Lincwelder AC-250-K"*


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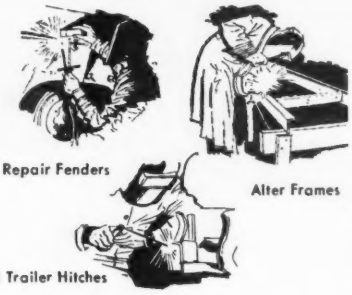


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"Lincwelder" boosts your earnings by saving costly man-hours on every service job. That's because "Lincwelder" welds faster, easier . . welds are more dependable-on light body jobs or heavy frames and axles

**CHECK LINCOLN'S LOW PRICE** before you buy any welder. "Lincwelder" sells for less money than other welders of similar capacity . . . yet gives you extra range, extra capacity not found in other welders.

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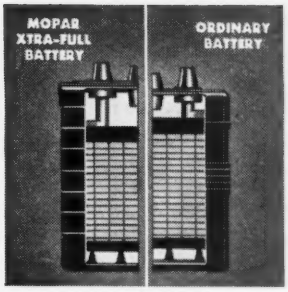
*The World's Largest Manufacturer of Arc Welding Equipment*

**"Al says it's the extra service he gives that makes for steady customers."**

# XTRA-FULL MEANS EXTRA SALES !

## Build business with MoPar Xtra-full batteries . . . 3 times more water above the plates means less filling, longer life

***Requires water only 3 times a year*** in normal use! Order MoPar Xtra-full batteries from your nearby Chrysler Corporation dealer or MoPar parts wholesaler. (Also, ask about the new heavy-duty MoPar Nickel-Cadmium battery.)




***Extra-large reservoir above plates*** means that plates are kept fully covered, to deliver full power *longer*. Ordinary batteries provide only ⅓ the reservoir, and, thus, are more likely to develop inactive plates which cause battery failure.

**New protection against water loss assures *satisfied* customers**

Because new MoPar Xtra-full batteries provide 3 times the water reservoir of ordinary batteries, *plates are kept submerged* . . . to help deliver full power long after the plates in ordinary batteries are exposed and inactive. Also, advanced features such as *extra electrical capacity* and *fibre-glass insulation* prolong battery life even further.

So—to build customer goodwill and add to your profits throughout the fall battery-selling season . . . provide your prospects with today's best battery buy, the new MoPar Xtra-full battery!

**MoPar**

**PARTS DIVISION • CHRYSLER CORPORATION**

*Advertised in The Saturday Evening Post*

# Pop O'Neill . . . . . Continued from Page 50

forgot how to cooperate with the public—though I hate these undernourished monstrosities. Take all the space you can squeeze out of this place. I'll leave you the keys and hold you responsible, of course."

"Course," said Tommy, relieved and a little worried all at the same time. "Thanks, Pop. I knew you'd come across. I told the boys your heart was bigger'n it looks from the outside . . ."

"What's that?" the old man grunted, but the kid was on his way to the phone.

That was Thursday. By Friday afternoon the O'Neill garage looked like a tryout for a miniature "500." Tommy was busy helping with some last minute details of the week-end race, and Larry was out on the front apron under a Jaguar. That's when Pop took a stroll through the shop and found two deserted jobs.

"What goes on here?" he roared. "I want that station wagon out by five o'clock, and that Buick has to be finished for the Judge tonight. Now nobody goes home until this shop work's done. Larry peeped out from under the Jag engine. "Pop, did you ever see the suspension system on this car? Look at this."

"I'm not interested."

"It's got American cars snowed by ten years. Why this torsion bar can't be used by us I just don't see."

"What-taya mean, better? How about manufacturing costs? You know this car costs dough?"

"Bet that baby will really take the corners," Larry insisted, sliding out and feeling the wheel.

"Who wants to take a corner faster than 15 miles per hour?" Pop growled. "Besides, I like a low ratio. What's this, a collapsible steering column?" In spite of himself Pop was attracted to the car. Larry and Tommy went back to work, and the owner came over to him.

"I'm Tom Dillard," he said. "Guess you're Pop O'Neill."

"Yep."

"I'm just going for a little ride. Check up on the timing. Want to go along?"

The old man glanced around to see if the boys were watching. He looked at his watch and he inspected the red leather upholstery. "Just a short one. All I got time for," he said, coolly.

"What happened to you last night?" Larry asked Pop the next morning while Tommy was back in the shop removing the last of the sports cars from the floor. He winked at Tommy, but the kid was looking pretty sick.

"Took a ride in that Jaguar," Pop said. "Drove it around for a while. Couldn't get Tom Dillard to call a halt."

"Way I heard it, you wanted to play with it all afternoon. Tom said he couldn't get your hands off the wheel."

(*Continued on page* 78)

**DOLE DV THERMOSTATS**

***help restore smooth engine performance***

Thermostats are small items—but don't overlook them. Check the thermostat on every motor tune-up job. Then replace with a new Dole Thermostat. Your customer will thank you for the improved motor performance. He'll be more likely to call again.

Replacement thermostats have a big market . . . millions of them every year. Be sure to get your share . . . and be sure you feature Dole Thermostats . . . "tops" in quality and performance for 30 years.

*protect your good name with another*

Control with Dole

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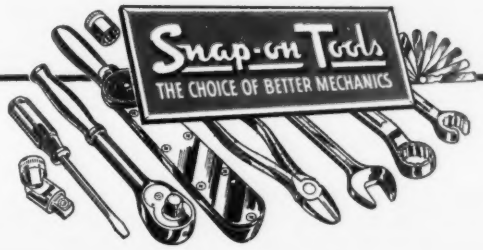
THIS IS IT!... the *complete* set of Snap-on's famed Ferret wrenches... stand-out favorites with top-earning mechanics from coast to coast! For an extraordinary range of service operations, 3/8" drive is exactly right... that's why this set includes handles, adaptors, sockets and drivers to give you just the combination to speed the meanest job. Handles are long, slim, incredibly strong ... with patented design "Palm-Grip" for real working comfort. Sockets have 4-way grip for quickest handle hook-up. Ask your Snap-on Man to show the complete set. Get the "feel" of these fine, fast tools—*try them on the job!* For complete catalog of more than 4000 Snap-on tools, ask your Snap-on Man, or write

**SET 272-F-B**

**HANDLES**—Ratchet, Ratchet Adaptor, Sliding Bar, Speeder, Nut Spinner, Plastic Grip Handle, Extension Bars (6-1½" to 20"), Flextension, Universal Joint.

**SOCKETS**—Double Hex, 1/8" to 7/8". Single Hex Sockets, 1/4" to 3/4". Deep Double Hex Sockets, 3/8" to 7/8". Flexockets, 5/16" to 3/4". Square Sockets, 1/4" to 5/8". Weatherhead Sockets, Pipe Plug Socket. Phillips Screw Drivers, Clutch-type Screw Drivers, Hex Head Wrenches and Standard Screw Drivers.

*Snap-on is the trademark of Snap-on Tools Corporation




## SNAP-ON TOOLS CORPORATION

**8036-J 28th Avenue, Kenosha, Wisconsin**

TIME-SAVING CHRYSLER LINE "SPECIALS"—Money makers for many operations on Chrysler, De Soto, Dodge, Plymouth. Ask your Snap-on Man to show you on his next call.

**WASHING . . .** For all type automotive wheel bearings. ARO Washer gives two-way cleaning action by expelling and withdrawing solvent through bearing parts. Thoroughly cleans bearing for repacking.

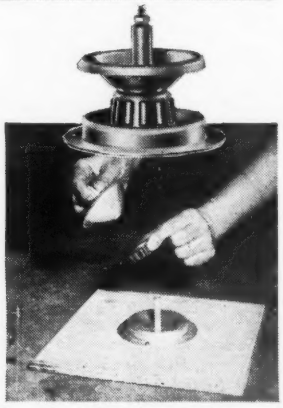
Do the job *fast, easy* and with *more profit*—use modern ARO equipment for wheel bearing service! This saves labor and assures proper lubrication . . . longer bearing life . . . and customer satisfaction

Use ARO Bearing Washer to clean out all old lubricant *fast* and *thoroughly.* Use an ARO Bearing Packer to force new lubricant around the bearing rollers *exactly right!* This combination does a perfect job—and does it *four times faster* than hand methods!

**Your Choice for PACKING . . .**

**Drum-Cover-Type Bearing Packer...** dispenses from original 100-lb. lubricant drums. Lubricates ball or roller type wheel bearings. Lever-action pump . . . volume delivery.

**Pail-Type Bearing Packer...** dispenses from original 25 lb. or 40 lb. containers. Metal follower plate for fast delivery of lubricant.



**Low-Cost Bearing Packer . . .** Lubricates ball or roller-type wheel bearings. Use mounted or unmounted, with any gun equipped with hydraulic coupler.

*See Your ARO Jobber*

**The Aro Equipment Corporation**
**Bryan and Cleveland, Ohio**
Aro Equipment of California
Los Angeles, Calif.
Aro Equipment of Canada, Ltd.
Toronto 1, Ontario

ARO ®

**LUBE EQUIPMENT**
**Also . . . Air Tools . . .**
**Aircraft Products . . .**
**Grease Fittings**


## Pop O'Neill . . . .

**Continued from Page 76**

"You know that car doesn't drive bad at all. If I were a younger man . . ."

Tommy walked into the office, his face as long as a spade handle. "Pop, I guess I've done it now. Come out here and see what happened."

"Well, I'll be damned," the old man exploded, glancing out the front window. "Now what in the blazes tore a hole in the top of that Buick?"

"It was OK when I left," Larry said. "Somebody's rammed into something."

"What happened, Tommy?" Pop demanded.

"Well, we didn't have enough room for all five of these cars."

"What does that have to do with a hole in a hard top?"

"So we put the half ton truck on the lift."

"What the blazes does the lift have to do with it?"

"And I raised the truck and put the Judge's car under it."

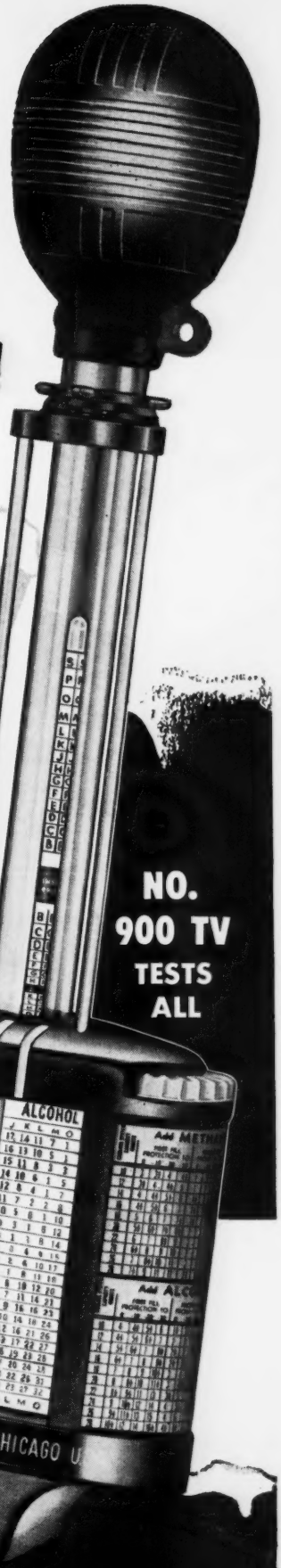
"Most fool trick I ever heard of And you didn't check the safety catch. And of course the pressure leaked out over night. You might have expected that."

"I had the safety catch on, Pop," the kid whined. "I don't see what happened to let the truck down on the Judge's car."

Pop went to the controls and raised the lift. "Then take a look

**"Did I do it right that time, Mr. McGuire?"**

# ONLY Edelmann FREEZ-D-TECTORS give you these Exclusive Features!




NO. 900 TV TESTS ALL

**Exclusive!**

**The ONLY DIRECT-READING INSTRUMENT MADE**

Eliminates errors—gives exact information! No guesswork! No temperatures to remember! Freezing point read directly at top of thermometer column.

**Exclusive!**

**UNMISTAKABLE VISIBILITY in any LIGHT**

Exact freezing point of any solution instantly visible on large TV screen. Expanded float scale with jumbo letters on 3 sides prevents errors.

**Exclusive!**

**INSTANT READINGS**

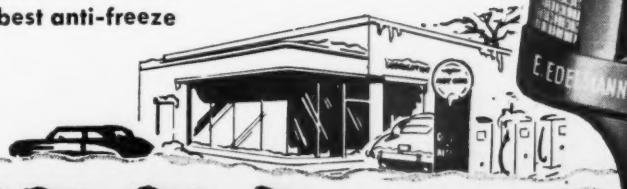
Show first fill and refill required. Add-a-quart protection chart shows at a glance how much additional anti-freeze to add for any specific freeze protection.

**Exclusive!**

**BRASS GUARD RAILS**

Protect Float Jar. If a jar is accidentally broken, there is no need to buy a complete new tester. Inexpensive Replacement Jars are always available.

Pride yourself on service! It pays off! A 900 TV FREEZ-D-TECTOR at every pump is your best anti-freeze salesman.



**E. EDELMANN & CO.**

2332 LOGAN BOULEVARD • CHICAGO 47, ILLINOIS

## Viner Chevrolet . . . . Continued from Page 46

zation program, which consisted of a complete new showroom building at the Broadway side of the structure, distinctive and unusual glass treatment was featured.

Some $5500 worth of ¾-inch heat-tempered plate glass was supplied for the modernization program. The facade of the building now incorporates five windows of 109x90-inch dimensions across the front and on one side of the building, duplicated on the second story, where two similarly-sized windows intersect at the right-front corner to provide an "upstairs showroom."

Working closely with glass suppliers, the Denver automotive dealer adapted the department-store principle of "slanted glass" for window display to eliminate reflection, and specified that all five of the street-level windows be tilted at an angle of 17 degrees, sloping outward from the base, which, except for extreme conditions, has done away altogether with unwanted glare and reflection of buildings and traffic opposite. Several angles were tested before it was determined that this degree of slant provided the best view of the showroom interior, with little or no glare during day or night hours. Since the interior of the showroom had been likewise completely remodeled, with rich woods for paneling on all interior walls, a glossy terrazzo floor, etc., the glareless windows have exercised far more influence in attracting potential buyers into the Viner showroom.

In keeping with the "hanging window" design is the glass usage in the doorway. Two outstanding features were incorporated here, including first, the use of electrically-operated hinges for two swinging, all-glass doors, which gently open the door as soon as any pressure

is placed on the handle, and after a brief pause for admission, swing shut again. In order to improve building appearance, and to allow the doorway to likewise serve as "display space," a "free-standing" door frame was utilized, whereby the door frames are not attached directly to the masonry at the front, but instead, are hinged to two three-foot panels of ¾-inch glass on either side. This expands the

(*Continued on page* 82)

**because the NEW JOYCE *H-master* FRAME LIFT**

**IS DESIGNED TO FIT THE LIFT TO THE CAR . . . NOT THE CAR TO THE LIFT!**

**BENEFIT from these *H-master* FEATURES:**

✓ BETTER LUBRICATION . . . car is supported by its frame, wheel suspensions are completely relaxed assuring free flow of lubricants. Wheels are free for tire and brake service.

✓ FAST, PROFITABLE MAINTENANCE WORK . . . because of greatest under-car accessibility. Compact H-Frame of lift parallels car frame.

✓ LOW COST INSTALLATION . . . just one jacking unit and simple plumbing to install. Wheel locator mounts on top of floor . . . no floor depression.

**Choose from 8 great models with safety features such as . . . automatic, positive locking, safety latch . . . and "Magne-Guard" low oil control.**

***Write for complete information today!***

JOYCE LIFTS

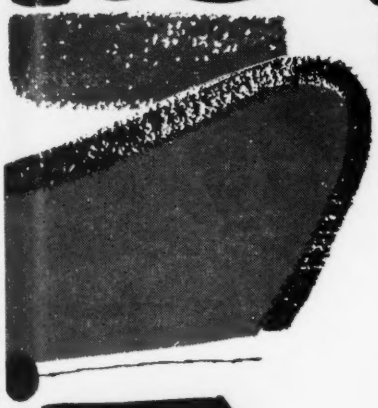
**THE JOYCE-CRIDLAND COMPANY**

Designers and Builders of Lifting Equipment Since 1873

U.S.A.: 2027 E. FIRST STREET, DAYTON 3, OHIO

**CANADA: MIDLAND FOUNDRY & MACHINE CO., LTD., MIDLAND, ONTARIO**

# It's Here!*



## Now . . . do the complete job!

## * PurOlator FALL CHANGE-OVER

Do what top dealers *everywhere* are doing . . .

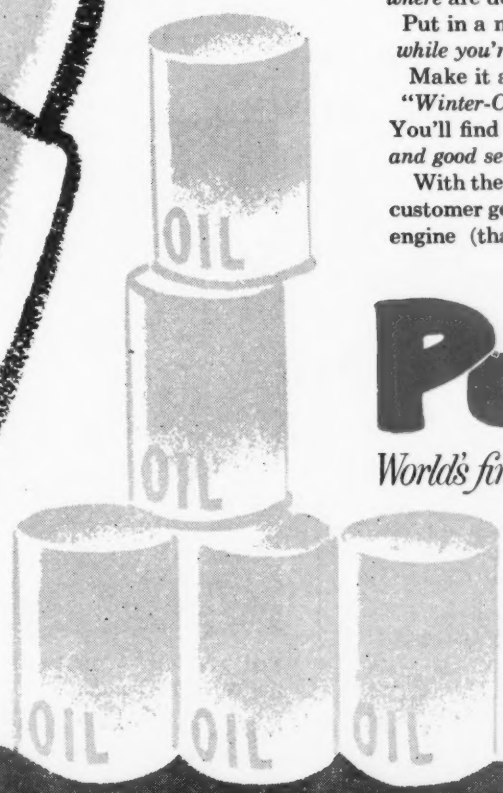
Put in a new PUROLATOR *while you're changing the oil.*

Make it a part of EVERY *"Winter-Conditioning" Job!*

You'll find it good business—*and good sense!*

With the new Purolator, the customer gets a better running engine (that's for sure) . . . and the dealer picks up extra profits . . . a profit on the filter, plus a profit on the sale of the extra quart of oil that goes with the filter change.

What's more, by showing that you know your job, have the customer's best interests at heart, you strengthen your hold, build business for all the products you sell.




# PurOlator

*World's finest* **OIL FILTER**

Best by every test, the Purolator* Micronic* Oil Filter has greater filtering area . . . filters more dirt, finer dirt *faster*. Often imitated—never equalled.

**Use Purolator Change-Over Campaign Material.** Window posters, displays tell customers that Fall CHANGE-OVER is on . . . that the time to change is HERE and NOW!

**PUROLATOR PRODUCTS, INC.**
**Rahway, New Jersey and Toronto, Ontario, Canada**

*Reg. U. S. Pat. Off.

# Viner Chevrolet . . . . Continued from Page 80

width of the doorway to approximately that of a standard length automobile, for a better view of automobiles parked in the center of the showroom immediately behind. Since the free standing frame can be easily removed, the practicality of the showroom for moving large vehicles has likewise been increased.

Making up the left wall of the showroom, incidentally, are nine panels of mirrors, extending from floor to ceiling, which both Viner and the designers felt was a highly unusual touch in automobile showroom decor. Since the mirror wall faces into the showroom, just inside the windows which flank busy Broadway, Denver's most heavily-traveled cross-town street, the impression is one of doubled size and eye-appeal of automobiles shown is substantially increased.

Probably the top interest point in the complete redesigning of the Denver automobile dealership is the "second floor showroom" which is actually only a corner of the building which has been converted into a show spot for a single automobile. Serviced by an elevator from the first floor, the small showroom is large enough for a single automobile and is equipped with floodlights and spotlights totaling to 2400 watts capacity which brightly illuminate every detail of the single new Chevrolet displayed at this point. Inasmuch as the car appears some 18 feet above the ground and is visible for four blocks along Broadway, the display serves as an effective reminder of Viner Chevrolet Company's location and to quickly bring to public attention new models.

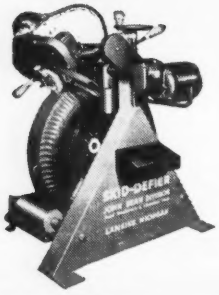
All windows throughout the Denver automobile dealership are framed in aluminum, readily replaceable and, in total, amount to more than 65 per cent of total wall space on the street level. In this way, Mr. Viner is well convinced that glass is aiding him to do "a better selling job in a tight automobile market."

**EARNS $650 IN TWO MONTHS**

L. A. Knibbs, a service station operator in Grayling, Michigan, purchased a John Bean Skid-Defier early in 1954. In less than two months his volume amounted to $650. In addition to passenger car tires, Mr. Knibbs deskids many truck and school bus tires. While smart merchandising has played an important part in Mr. Knibbs' de-skidding success, he says, "My John Bean Skid-Defier pays for itself . . . it's one of the best profit-makers in the place."

WITH A John BEAN SKID-DEFIER You Can

GO ...FOR MORE PROFITS!




Put yourself in line for the new profits that thousands of smart operators all over the country are earning with the John Bean Skid-Defier. It's a rugged, easy-to-operate unit that will pay for itself in a short period. Cuts circumferencial or cross slits and mud or snow cleats automatically.

*Ask your John Bean jobber or write today for full information*

JOHN BEAN DIVISION
Food Machinery and Chemical Corporation
LANSING 4, MICHIGAN

fmc FOOD MACHINERY AND CHEMICAL CORPORATION

Wheel Aligners • Wheel Balancers • Tire De-Skidders • Steam Cleaners
Car Washers • Headlight Testers • Accessories and Allied Tools

**FOUR-YEAR SCHOLARSHIPS to the Newark College of Engineering are presented to two sons of employees by Ralph R. Layte, (center) president of Purolator Products, Inc., Rahway, N. J. William G. Duick, Jr. is being congratulated while Harry G. Smith, Jr. looks on.**

Your Chevrolet Dealer is ready, willing and able to serve you **better than ever!** See him today!

# Independent Servicemen:

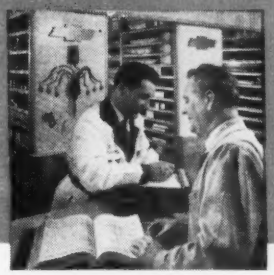
## Here's 1 of the 4 Big Benefits you get

when you deal with YOUR CHEVROLET DEALER . . . YOUR PARTNER IN SERVICE

## Technical Helps in Solving Service Problems

Helps like the "Time Saver" shown here enable you to solve tough service problems quickly and accurately. You do jobs the *right* way—*right away!*

## Here are the other 3



CHEVROLET

More than 1 out of 4 vehicles on the road is a Chevrolet! It's the largest owner service market in the industry! By dealing with your Chevrolet dealer, you can take full advantage of the wide reputation for customer satisfaction that has been built by Genuine Chevrolet Parts.

**A complete line of Genuine Chevrolet Parts**

One quick, convenient source supplies all the parts you need. And you get the right parts to do the job right—Genuine Chevrolet Parts.

**Increased Service Efficiency**

You get parts you want in a hurry. What's more, Genuine Chevrolet Parts fit right . . . save time on the job. Installation is quicker, simpler, easier.

**Greater Customer Satisfaction**

Your service work is bound to satisfy when your skilled mechanics use Genuine Chevrolet Parts. They're made to function better . . . last longer.

**YOUR CHEVROLET DEALER IS READY, WILLING AND ABLE TO SERVE YOU**

## Pop O'Neill . . . . . Continued from Page 78

at it and you soon will see—that is if you can see under all that grease and grime accumulated on these safety dogs."

Larry came in after examining the damage. "That's a fifty dollar hole if I ever saw one," he mused. "And if I can judge the Judge, he's going to be madder than a court house bumble bee when he hears about this."

"It's your fifty dollars, too, my boy!" Pop was concentrating on the lift, however, instead of the car at the moment. "Tommy, didn't I tell you to go over that lift not over a week ago and put it in shape? This animal hain't had so much as a look in six months."

"I did fill it with fluid last week, Pop. I was going to check the exhaust valve and the seal later . . ."

"And I remember tellin' you to get some solvent and clean up the outside so you could see what the heck you were doing. Evidently that five-minute sermon I gave you on the dangers of grease-covered machinery didn't soak in."

Tommy felt as low as the Dachhound who fell in the cistern. "I did clean up the grinder like you said . . ."

"Well, you'd a' made yourself some money if you had spent a little more time on this lift. You're into me for a fifty dollar repair bill—and I'm going to hold you to it because you didn't follow orders. You want to work this afternoon —or shall I start deducting it from your paycheck?"

"But I wanted to go to the races this afternoon."

"Up to you. Go call the body shop and get that Buick fixed right away. Tell them it's got to be done by tonight. And you're going to have to stay here this afternoon and get that car back to the Judge. Serves you right if you miss the race."

Tommy went.

"Guess I'm being pretty hard on the guy," Pop told Larry. "But somebody's got to stay here, and I don't see why one of us should cover for his foolishness."

"I'll go get a new seal and he can work on the lift this afternoon. OK?" Larry queried.

"Good idea."

Pop left at noon and Larry soon followed. Tommy set about to service the lift, cussing his ignorance for all the trouble he had caused. By four-thirty he had completed the work and was testing it out when the 'phone rang. "It's Pop, Tommy. I'm up on Old Baldy and I ran off the road. I hit a boulder and sprung the tie rod. Will you bring up your tools and a new rod for this Chev?"

"Sure. But you weren't hurt, were you, Pop. What happened? And what are you doing up *there?*"

"I'll explain later. Now hurry, Tommy, please. It's a long way up here, and you'll want your Saturday night off early. You'll have to go out to Warlick's house and get him to get that tie rod for you."


here's ***why*** you get
more stopping power • longer life •

**WORLD BESTOS**

**World Bestos "PF" Brake Lining Sets** are dry-mix, molded segments engineered for each make and model passenger car and light truck. "PF" linings are available for riveting or bonding and are packaged 4 segments to a set to equip one axle.

"OK, Pop. And say. How'd the race go? Who won it?"

"Come on, now. Get a move on. I'll admit I went to the race, but I'm not apologizin'. And you're still in the doghouse if you don't get up here pretty quickly."

Tommy grinned into the phone and headed for the wrecker. Something told him that *most* all was forgiven if he could help Pop out of this jam. The race was over when he reached the rest station and the finish line of the race on top of Old Baldy. Pop had missed a turn just a few hundred feet from the top and had hit a rock. He was still cussin' a blue streak when the tow truck rolled up.

"I turned out to miss one of them damned MG's and beached her. Serves me right for getting in the way," Pop growled. Tom Dillard was already under her with a set of tools.

"We'll have you out of here in a jiffy," he said. "Heck of a way to celebrate a victory though, fixing a garage owner's car. This is one for the record."

"So you won, did you, Tom?" Tommy said. "Congratulations! Now I don't feel so bad about losing $50 on this race."

"You lost $50. Don't tell me you bet on the MG?" Tom exclaimed.

"Pop looked at Tommy sheepishly and then he turned to the winner. "Tommy *nearly* lost $50 on this race all right. But if he knows how to handle his tongue, keep his mouth buttoned, I think he's made it back."


life • complete customer satisfaction

BRAKE LINING SETS

give you

7 different FRICTION FORMULAS

to assure top brake performance for every make and model car

● World Bestos "Prescribed Friction" Sets include *seven different friction formulas* . . . developed in World Bestos laboratories and used in combinations . . . to meet the individual braking requirements of every make and model vehicle.

Each packaged set of World Bestos "PF" Lining actually gives you an exact "prescription" for maximum stopping power, long lining life, and safe, dependable braking performance for every car you service.

This is *engineered brake lining* in the truest sense of the word . . . the kind you *must have* to service modern high-horsepower, automatic-drive cars and trucks. And you get it *only* with World Bestos!

Customer satisfaction with your brake work (at its *best* with World Bestos "PF" Lining) brings more business and *more profits* to your shop!

*Call your World Bestos Distributor for details on the complete line of World Bestos Brake Linings, Brake Blocks and Clutch Facings . . . or write direct to World Bestos, New Castle, Indiana*

WORLD BESTOS NEW CASTLE, INDIANA

WORLD BESTOS gives you *MORE STOPPING POWER!*

**"Helluva note—all my crew ups and joins the volunteer fire department!"**

## GM Proving Grounds In Business 30 Years

Test drivers and engineers at the General Motors Proving Ground near Milford, Michigan, are marking 30 years of operation this month.

"The Proving Ground has no exact birthday," explained Charles A. Chayne, GM vice president in charge of engineering staff. "Operations began gradually in September, 1924, so we observe this month as the birth month.

"In these 30 years, a total of 9,573 cars, trucks and buses have been driven a total of 151,674,787 test miles. This is the equivalent of more than 6,000 trips around the world at the equator. During the first full year of operation, 1,563,000 test miles were driven at the ground. The total this year will exceed 11,000,000 miles. Currently, up to 40,000 test miles are being driven daily."

## Rough to Puff . . . . . Continued from Page 45

sponge and the foam only (no water) is used on the headlining. As the foam is whipped onto the headlining with the sponge, it cleans the fabric. Some of the foam is absorbed by the fibers of the headlining material; that residue is allowed to dry right into the headlining.

The result is a clean, light interior. Meanwhile, the whole interior has been vacuum cleaned and, after the headlining has been cleaned with the heavy foam, the upholstery cleaner solution itself (with the water, that is) is used on the seat cushions and door panels. To restore the natural fabric color, a tint is added to the cleaner. Carpet mats may be vacuum cleaned, washed and tinted the same way. Kick panels and rubber mats are renewed with plastic dye.

**More U. S. motor vehicle exports go to South America than to Europe and Asia combined**

## Facts and Tips On Bad Checks

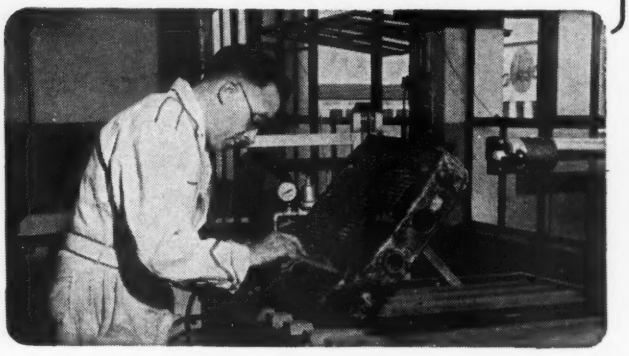
Plenty of service stations and garages are trading high-octane gas for low-octane checks, a national survey of check fraud revealed recently.

The survey, compiled from police records in 98 cities of over 40,000 population, listed stations and garages sixth among the eight favorite victims of bad check artists who hauled in a $400,000,000 take last year.

Police chiefs in the 98 cities have an ample answer for stopping the bad check racket. They advise using extreme caution in cashing any check. Other police recommendations:

1. Cash checks only for persons known to you or to a friend.
2. Require identification more positive than a mere driver's license or social security card where casher is unknown.
3. Call the bank, if there is any doubt, before cashing check.
4. Accept checks only for the amount of purchase.
5. Never cash out-of-town checks or large checks — refer check-casher to bank.
6. Don't take chances to make sales. Ask questions. Stop worrying about losing a customer by doing so.
7. If you really want to scare off the bad-check artist, require fingerprints or thumbprints of all unknown check-cashers.
8. Don't cash a check without question just because it looks official. Some of the most worthless checks are those of major American companies — stolen checks, made to look official with stolen check machines.
9. Report any loss promptly, and cooperate with police in the prosecution of bad check passers.


**$11,000 With an INLAND RADIATOR DEPARTMENT in *Only* 8 months—*Only* 1 man!**



***Says...***

**Jack Fagan of Jack Fagan, Inc. 230 So. 7th St. Phone 1073 Delavan, Wisconsin Population 4007**

"Our return on our investment has been excellent. It paid for itself *faster than any other equipment* we have. As for space, we utilized a former car wash stall which everyone knows can't produce that many dollars. Inland properly trained our man and when I say properly I base that on the amazing small percentage of comebacks. And, Inland trained him at *no extra charge.*"

Few automotive services offer such a potential for new and expanded business. Of the 60-million vehicles in the U.S., over 15-million require radiator service yearly. Inland-developed equipment allows operators to employ highly profitable production methods. And Inland, world's largest manufacturer of radiator repair equipment, offers the only complete package — equipment. training, merchandising.

***Why Wait?***

**Start by investigating this now. The most it can cost you is a few minutes of your time. And the reward can be amazing!**

**Fill out coupon now for your free copy of "Blueprint For Profit." Gives details and prices of required equipment and experiences of other operators.**

**Inland Mfg. Co., 1108 Jackson St.**
**Omaha, Nebraska**

**Inland Manufacturing Co. Dept. MA-10**
**1108 Jackson St., Omaha 8, Nebraska**

Please send free booklet "Blueprint for Profit."

FIRM_____

ADDRESS_____

CITY_____ ZONE____ STATE_____

BY_____ TITLE_____

If Dealer, make of car sold_____

Are you now operating a radiator shop ☐ Yes ☐ No

**P.S. — Mail Coupon Now. Take Advantage of New Models At Lowest Prices Ever!**

# Tough Tires and Tough Advertising

## PUT **Armstrongs** OUT FRONT FOR FAST, EASY SALES!

Here's one of the many ads selling your customers.

## To get your sales off to a flying start
## BIGGEST ADVERTISING EVER!

Here's a one-two sales punch that's a knockout! First, "the toughest tires on the road" . . . the *only* tires with Double Insert Plies for extra safety, wear, mileage! Second, a down-to-earth, believable, hard-hitting advertising campaign that appears every month in leading truck magazines. For faster, bigger tire sales . . . stock Armstrongs today!

# ARMSTRONG Rhino-Flex TRUCK TIRES

WEST HAVEN, CONN. • NORWALK, CONN. • NATCHEZ, MISS. • DES MOINES, IOWA • SAN FRANCISCO, CALIF.

# Every gallon of gasoline burned in an internal combustion engine produces more than a gallon of water

BECAUSE the Walker Oil Filter is the only filter specifically designed to guard against crankcase water, it is the only really different filter on the market today.

By removing water from the oil, the Walker Oil Filter retards sludge formation, reduces corrosive acid wear, and preserves the detergent and additive properties of HD oils. That's why your customers need Walker Oil Filters in their cars.

The Walker Oil Filter story is being told to the 26 million weekly readers of LIFE—and a lot of them are your customers! So start now to sell the complete protection offered only by the Walker Oil Filter. Remember—there is a low-cost Walker Laminar Cartridge to fit all makes of filters.

Find out more about the Walker Oil Filter . . . get in touch with your distributor today, or contact Walker direct at Racine, Wis.

GET IT FROM YOUR JOBBER

Most of that water evaporates or passes out through the exhaust. But some water always blows by the piston rings into the crankcase oil.

Water in the oil is the chief cause of sludge and source of corrosive acids.

Sludge and acids cause poor engine performance and costly repair bills.

**The Walker Oil Filter is the one filter specifically designed to guard against crankcase water and against all other harmful contaminants.**

**It takes just 30 seconds . . .** to tell this Walker Sales Story. It's a fast-telling, fast-selling story that makes plenty of sense. Use it to sell the complete filtration protection that only the Walker Oil Filter gives.

# WALKER OIL FILTERS

WITH PATENTED *Laminar* CONSTRUCTION

## *Guard Against Water in the Crankcase Oil*

**WALKER MANUFACTURING COMPANY OF WISCONSIN, RACINE, WIS. • OIL FILTERS . . . EXHAUST SILENCERS . . . JACKS**

# New Products . . . . . Continued from Page 54

### 478. Welding Catalog

**Air Reduction Co.: A condensed** 52-page catalog describes and illustrates all of this company's light welding and cutting equipment. The catalog acquaints customers with the line, explaining how each item operates and the jobs to which it is best suited. Complete specifications and stock number information is also supplied.

### 479. Water-Flow Chart

**Inland Mfg. Co.: This radiator** water-flow chart is now available to radiator repair departments and shops. It lists the gravity water flow in gallons-per-minute for 1941-through-1954 models of all makes of cars, trucks and tractors. This chart, used in connection with a radiator flow-tester, enables the operator to show the customer how much his radiator is plugged, if any.

### 480. Bearing Manual

**Thompson Prod., Inc.: Called** the Thompson Engine Bearing Manual, this 100-page booklet with 123 photos and color diagrams is now available. The manual is said to explain everything about an automotive engine that relates to bearings, including maintenance, servicing, and diagnosis of engine failures.

### 481. Power Steering Wall Chart

**Imperial Brass Co.: A two color** wall chart showing the power steering hose assemblies used on various makes and models of cars is offered by this company.

A full range of pressure and return lines for both passenger cars and trucks is included in the listings. Retail selling price of each line is also shown.

### 482. Steam Cleaner

**Henry Flow Control Co.: Rapid** cleaning of motors and so on without dismantling them can be done with this company's "Steam Kleen" jet sprayer, it is claimed. Steam jet feed is operated by finger tip control, while changeover from wet to dry steam is said to be instantaneous. The portable unit weighs approximately 16 lbs., ready for operation and has a capacity of ½ gallon of water which can be brought up to operating temperature and pressure in 20 minutes using cold water.

### 483. Oil Filter Line

**Fram Corp.: A complete line of** oil filter replacement cartridges for popular foreign vehicles is now available through Fram.

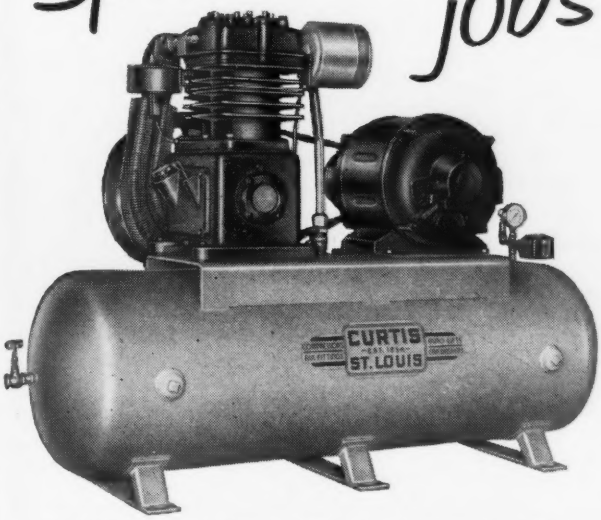
The line will provide replacement cartridge coverage for models such as Jaguar, Austin, M.G., Morris, Porsche, Standard, Triumph and others. It also includes

(*Continued on page* 92)

# Curtis

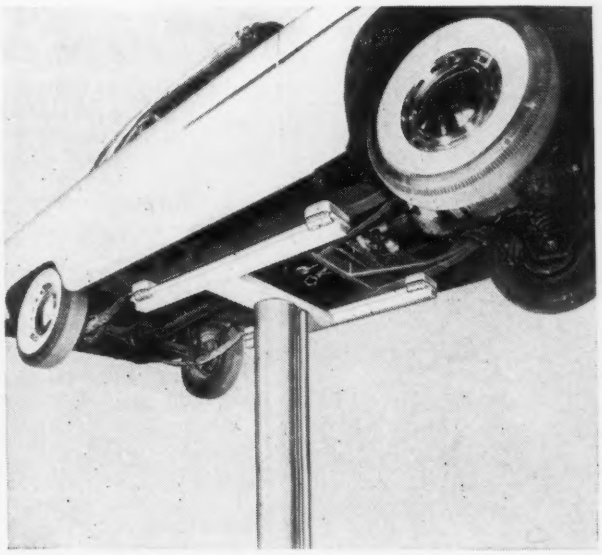
## AUTOMOTIVE SERVICE EQUIPMENT

*Speeds up your jobs!*




### TANK MOUNTED AIR COMPRESSORS

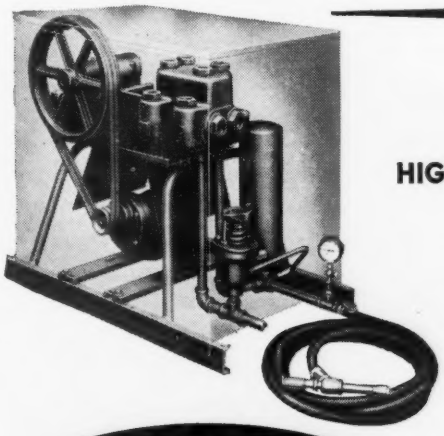
¼ h.p. to 15 h.p. . . . 1 cu. ft. to 78 cu. ft. displacement per minute . . . A.S.M.E. tank for 200 lbs. working pressure. Single stage or two stage. Precision-built . . . Timken-bearing-equipped . . . self-oiling. For continuous operation or with automatic stop and start. Also base-mounted units up to 300 cu. ft. per minute.



### FULL HYDRAULIC FRAME LIFT

Speeds up under-car work . . . provides maximum accessibility for lubrication, adjustment and repairs. Car springs are relaxed and bearings free, lubrication is much easier. Faster wheel, tire and brake work, too, because wheels hang free.

Curtis also offers a
Two Post Shop Lift . . .
Single Post Roll-on Lift . . .
Single Post Free Wheel Lift . . .
Two Post Truck and Bus Lift.



### HIGH PRESSURE HYDRAULIC CAR WASHER

Promotes a faster, easier job . . . more profit from car washing. Unit operates at 300 lbs. pressure . . . has self-oiling pump, brass-lined cylinders, exceptional accessibility. It's precision-built . . . quiet-running.

1854 **100** years 1954

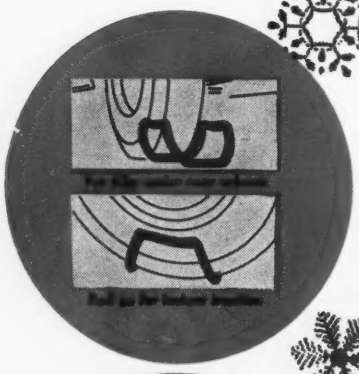
**Curtis** PNEUMATIC MACHINERY DIVISION
*of Curtis Manufacturing Company*
**1946 Kienlen Avenue • St. Louis 20, Mo.**

804

*Covering the Cold Front!*

# CAMPBELL CHAIN

*The only complete line of Traction Equipment!*



Revolutionary NEW Emergency

**"TRACTION KLIPS"**

A new *profit* addition to your winterizing program! The *easy* way *out* of ruts . . . up slippery hills . . . away from icy gutters. Just tuck under rear wheels. Roll on—roll away. Even if wheels are spinning Klips will be picked up and locked on. Handy lever zips them off. A brand new item that's sure to become a motoring must!

Adjust the chain and lock

On the Wheel in Less Than a Minute

**"KWIK-ON" TIRE CHAINS**

Sensational new type of complete chains for continuous use. Takes less than a minute a wheel to be ready for snow, ice, mud! Chain slips over wheel with handy handles—Jiffy Hook fastens them in back—easy to adjust and lock. Special plastic sleeve protectors with each set. No jacking—no moving car. Every car owner will want Kwik-Ons.

*Lug-Reinforced*

**STANDARD CHAINS**

Patented *Lug-Reinforced* construction that digs in for better traction . . . greater protection against skids and side slips. Easy-to-use Chain Applier included with every pair. Store neatly in sturdy box. The finest tire chains money can buy! Get your stock in early. Now's the time to make sure you get your regular customers' business!

Three Grades of Campbell

**TRUCK CHAINS**

*Lug-Reinforced* for maximum traction and long wear—*Highway Service* for general use—*Mud Service* for off-the-road use. Color-coded bags make identification easy.

*Stock up! Check your jobber today. Remember—Campbell Chains are advertised in* **LIFE** *and* **THE SATURDAY EVENING POST.**

**CAMPBELL CHAIN** *Company*

MAIN OFFICE, YORK, PA.

West Burlington, Iowa; Portland, Oregon; Sacramento, Calif.

*Chain for every need . . . industrial . . . marine . . . farm . . . automotive*

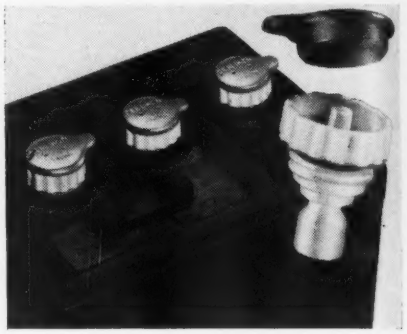

## New Products . . .

Continued from Page 90

lubricating and fuel filters for Fordson tractors and additional replacement cartridges for foreign Diesel engines.

### 484. Battery Cap

**Amer. Oerlikon Co.:** The Oerlikap is so constructed that it controls the battery electrolyte level and the battery cannot be over-



filled. Any excess that does overflow is undiluted. It is further claimed that the cap contains a battery water reservoir that automatically meters needed water into the cell chamber as electrolyte is consumed.

### 485. Tachometer Switch

**Stewart-Warner Co.:** A switch or "sending" unit which makes possible the installation of electric tachometers on a wide range of passenger cars and trucks has been announced by the instrument division of this company.

The switch makes tachometer installation possible on practically any vehicle on the road, the maker states.

### 486. Battery Charger

**Allen Elec. Co.:** The latest addition to this company's line is a 6 and 12 volt charger. The cabinet design includes disappearing charger leads and a weatherproof control panel cover. The unit fast charges 6 volt batteries at seven rates, up to 100 amps., and 12 volt batteries up to 50 amps. It will also slow charge up to fifteen 6 volt, or seven 12 volt batteries.

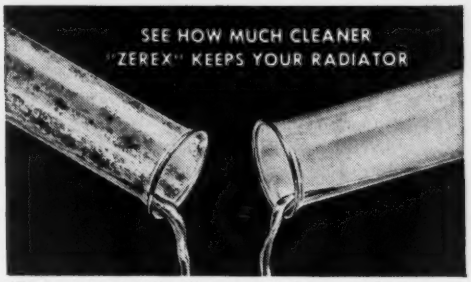
(*Continued on page* 94)

# Motor Experts Prefer Du Pont "ZEREX" Anti-freeze

REG. U. S. PAT. OFF.

## for winter-long protection against freeze-ups, rust and corrosion

Men who *must* know motors prefer Du Pont "Zerex" anti-freeze. For instance, 88% of the starting drivers at this year's world-famous Indianapolis 500-mile race* use Du Pont "Zerex" in their own personal cars. Here's one reason why:




Tube at left held ordinary anti-freeze with oil-type rust inhibitor. Tube at right held "Zerex." Rust particles were added to both. Note how oily film makes rust cling to tube at left (just as it would gum up your cooling system). But see how clean the tube is that held Du Pont "Zerex" with special *chemical* rust inhibitor.

***88% of 1954 Indianapolis "500" race drivers use "Zerex" in their personal cars**

"With 'Zerex' in my car, I know I can safely forget about freeze-ups."
**JOHNNIE PARSONS**

"'Zerex' is the best freeze-up preventer I've ever used."
**SAM HANKS**

"I find that 'Zerex' keeps my car's cooling system cleaner—there's no rust."
**DUANE CARTER**

*New low price—* **$2.95 A GALLON**

## Du Pont's stand against employee sales helps you!

Du Pont sales policies are specific in opposing any practice that takes legitimate profits away from the dealer. Consumer business on the sale of "Zerone" and "Zerex" has been built through regular dealer outlets. Du Pont and its wholesalers will not "pick the pockets" of their dealers by condoning the practice of selling industrial outlets who resell "Zerone" and "Zerex" at wholesale prices to their employees.

DU PONT
REG. U. S. PAT. OFF.

**BETTER THINGS FOR BETTER LIVING**
***. . . THROUGH CHEMISTRY***

**WATCH NORMAN SPER'S FOOTBALL FORECASTS EACH WEEK THIS FALL ON YOUR LOCAL TV STATION**

### 487. Mower Attachment

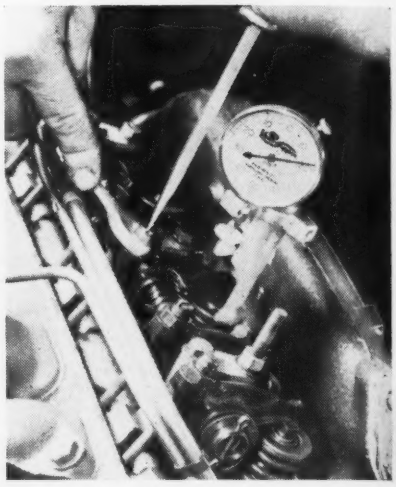
**Cooper Mfg. Co.: Just announced** a mulching attachment for this company's 18 inch and 20 inch "Cyclo-Mo" rotary mowers. Leaves are retained within the cutting unit until they have been reduced to a fine mulch and are then returned to the lawn. The company states the kit consists of two perforated steel bands, one closing off the front chute and the other extending around the rear path of blade.

### 488. Shelving Device

**Narva Prod. Inc.: A device that** can be attached to any standard wood or metal shelving known as Step-N-Fetch has been marketed by this company. A step and handle combination, the device permits a person to step up with one foot and reach items on the top shelves of storage units. The set is offered with a choice of step models. One is rigid and the other flips up when not in use.

### 489. Valve Gapper

**P&G Mfg. Co.: According to the** maker this valve gapper with adaptor fits all passenger cars with valve-in-head engines, and



most Ford trucks. Another model of the gapper fits Ford, Mercury, Lincoln and all Ford truck engines with overhead valves. The instrument measures the travel of the rocker arm prior to contact with the valve stem and the measurement is shown on the dial.

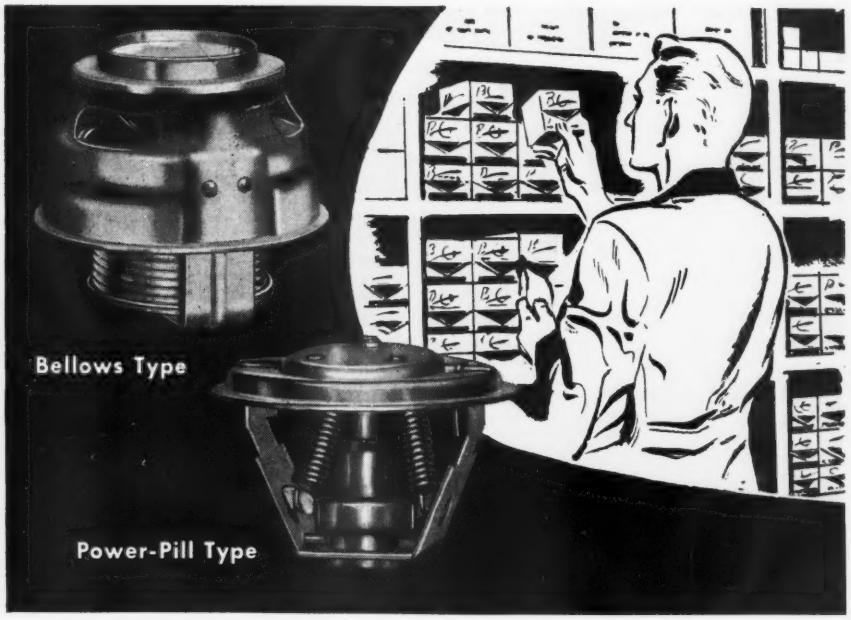
### 490. Plastic Drip Rail

**B. F. Goodrich: Dripping rain** water stays out of the inside of convertibles which are protected by a vinyl plastic drip rail, according to the item's manufacturer. Named Flexo-Drip Molding, the drain rail is sewed around the outside of the top. Rain drips into it and the water is channeled past the windows to the rear of the car. The molding, it is claimed, won't freeze, crack, chip or peel and comes in black, white and tan colors.

### 491. Cylinder Hone

**Lisle Corp.: Said to operate with** any half-inch drill, this small cyl-

(*Continued on page* 96)


**Are you ready for *profitable* winter business with plenty of Bridgeport thermostats?**

Winter car-servicing time is *here*—business is underway—and it's an ideal time to *re-check* your stock of Bridgeport motor thermostats. See that you have ample supplies on hand—are ready to cash in on every opportunity to replace over-aged or inefficient thermostats with Bridgeport's.

Bridgeport gives you the extra advantages that help boost your profits. The Bridgeport line meets the needs of sealed or open cooling systems—any car, any car manufacturer's thermostat choice; they duplicate original equipment. They're sturdy, efficient, quality-made—backed by a pioneer in this field. And remember—the thermostat is a car-necessity; every car requires a periodic replacement—sales-opportunities that are wide open for *you!*

Bridgeport car thermostats are easily installed. Liberal profit margin. Dealers can get quick information and service from jobbers, or from us direct. Jobbers are invited to get the full story by writing Dept. TMA, Robertshaw-Fulton Controls Company, Bridgeport Thermostat Division, Bridgeport 1, Connecticut.

**BRIDGEPORT AUTOMOBILE THERMOSTATS**

# "Excellent results—with Commercial Credit Plan"

says **MR. L. T. VERNER,** of Boedecker-Verner Motors in Dallas, one of the largest Dodge-Plymouth dealers in the southwest.

COMMERCIAL CREDIT PLAN

**COMMERCIAL CREDIT CORPORATION**

A service offered through subsidiaries of Commercial Credit Company, Baltimore . . . Capital and Surplus over $150,000,000 . . . offices in principal cities of the United States and Canada.

"**BACK IN 1948** we made a careful study of various credit plans. Primarily we were interested in finding a plan that offered the most complete retail financing package. The results of this survey led us to select COMMERCIAL CREDIT PLAN and we are still very happy with our choice. The plan has given us excellent results."

***COMMERCIAL CREDIT DEALERS ARE Successful DEALERS***

Let us show you how COMMERCIAL CREDIT's broad experience, large resources and complete financing facilities can contribute to your success. Write, wire or phone your nearest COMMERCIAL CREDIT office. You'll get prompt action.

Another PERFECT PRODUCT

# COIL SPACERS

## FOR PASSENGER CARS

1. Permits Better Wheel Alignment
2. Improves Car Appearance
3. Improves Car Steering
4. Helps eliminate Spring Squeak

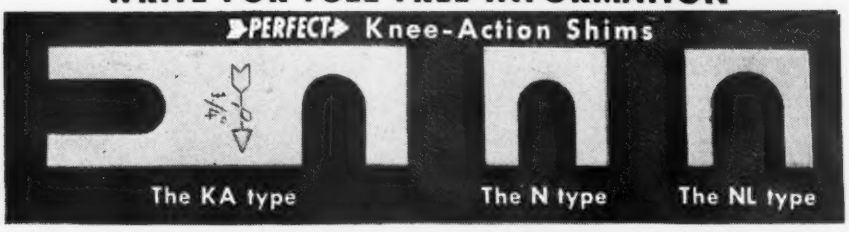
This Photo is Slightly Larger Than 1/2 Actual Size

PERFECT Coil Spacers insure the proper coil action while restoring the original height and level of the car. They're made of the finest aluminum alloy especially for coil spacer rings—and conform readily without breaking. The PERFECT Ring has a minimum tensile strength of 32,000 pounds per square inch; and an elongation minimum of 6 per cent.

PERFECT Coil Spacers will raise the front end car height approximately 3 times their own thickness, and the equivalent of the spacer thickness on the rear end.

WRITE FOR FULL FREE INFORMATION

PERFECT Knee-Action Shims




PERFECT EQUIPMENT CORP.

804 W. Morgan St. KOKOMO, IND. P. O. Box 706

Manufacturers of Passenger and Truck Wheel Weights — Coil Spacer Rings — Caster Shims.

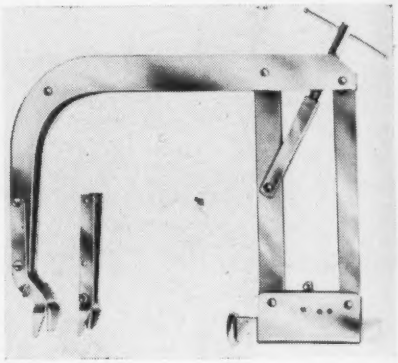

## New Products . . .

Continued from Page 94

inder (1¾ inch to 2.6 inch) hone is supplied with three sets of stones which can be changed for the various ranges. Extra long 3⅝ inch stones are designed for accuracy in small cylinders and give long wear, according to the manufacturer. Universal joint action makes it possible to hone at an angle.

### 492. Valve Compressor

**Zim Mfg. Co.: This valve spring** compressor is a c-type with adjustable ram, 10¼ inch wide opening and 10¼ inch throat depth.



The adjusting screws on the jaws fit the valve keepers snugly and can't spread and slip over. The double-thread operating screw holds at any point and can't back up. The ram fits the top of any valve head, its maker states. A standard set offers straight jaws and curved jaws, finished in cadmium, and weighs about 8 pounds.

### 493. Power Cleaner

**Multi-Clean Prod. Co.: A special** pump built into the cleaning unit to give accurate control of solution flow at the point of work is a feature of this company's portable upholstery cleaning machine. Called the professional, the unit weighs 6 pounds and is equipped with a nylon bristle brush and a plastic hose.

### 494. Brake Cup Expander

**D&V Mfg. Co.: A hydraulic**

(*Continued on page* 98)

# "Certifying our gauges and gauging equipment as accurate helps build our sales!"

*Says: Al Thomas, Owner*
*Thrall & Thomas Service Station*
*New Canaan, Connecticut*

Mr. Thomas and Bill Philipcik testing all their gauging equipment against a master gauge reading

#8106B
Trutest Special
— the gauge that "certifies" your airlines

"The few minutes it takes each week to certify as accurate all our tire inflating-gauging equipment pays off in customer confidence. We tell our customers what we do for their protection — and that just naturally leads to sales of all our services and products . . . and turns "hoppers" into "steadies."

Here's a good example of how one dealer has increased business by applying Schrader's Certified Air Service to his operation. He begins with the basic idea: Certifying gauges, gauging equipment, by weekly checks . . . and letting his customer know about it. There are more TBA selling ideas in the Schrader Manual A-200. Write for your copy. And remember, for all air service products . . . replacement valves, airline equipment, valve caps and cores — your Schrader Supplier can serve your needs.

**Here's how Al Thomas sold a new tire:**

"Using Schrader #7750T as dipstick, it's easy to start tire conversations"

"Sold this customer Schrader #5050A Passenger Tire Gauge to tell him when it's time to come in for air service"

"Previous underinflating led to weakened casing"

"Result: Sold him a new tire!"

**A. SCHRADER'S SON**
*Division of Scovill Manufacturing Company, Incorporated*
**470 Vanderbilt Avenue, Brooklyn 38, N. Y.**

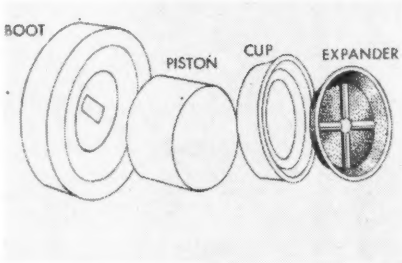
**Schrader**
REG. U. S. PAT. OFF.

FIRST NAME IN TIRE VALVES
FOR ORIGINAL EQUIPMENT AND REPLACEMENT

8253

brake cup expander that is said to prevent leaks and to keep cylinders from sticking or becoming sluggish is available through this maker. The expander is designed to provide lubrication without the holes punched around the flange which, according to the manufacturer, eliminates any possibility of the cup clinging to the expander.

These expanders come in eleven




sizes, including 1 5/6 inch for the new Chevrolet.

NOTHING LIKE IT FOR PERMANENT PROFITS!

Customers stay sold on

PENNZOIL ONLY motor oil with Z-7

FULL POWER INGREDIENT BUILT RIGHT IN!

UNLOCKS HORSEPOWER

Your customers feel the difference with the first crankcase fill!

Cash in NOW!
Send for details to
THE PENNZOIL COMPANY
OIL CITY, PA.

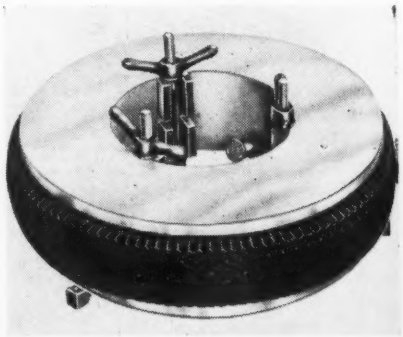
© 1954, The Pennzoil Co., Member Penn. Grade Crude Oil Assn., Permit No. 2

### 495. Gasket Sealer

**Bar's Leaks Corp.: Here is a** gasket sealing compound that is said to insure better torquing characteristics on head gaskets and to guard against water seepage. Easily applied Gasketelper also seals studs and cap screws extending into the water jacket of any engine, the company states. Gasketelper comes packaged in a polyethylene hot-sealed envelope and packed in a dispenser for wall or counter display.

### 496. White Sidewall Unit

**Keystone Rubber & Equip.** Corp.: With this machine it is claimed that only 20 minutes are required to convert black sidewall tires into white rubber sidewalls that won't discolor or bleed. The PERMA-WHITE equipment handles all 15-inch passenger tires. All that is necessary to operate the mold is an electrical outlet to plug



into. No boiler is needed, and this self-contained unit made of lightweight aluminum can rest on a work bench, the maker states.

### 497. Body Repair Kit

**Fiberglas Evercoat Co.: Said to** be good for body work from repairing small holes to large customizing jobs (according to the kit size), the Futuride automotive kit is now being offered by this company. The material used is Fiberglas and plastic combined. Metalfast offered in all but the smallest kit is said to provide a permanent bond between the plastic and metal.

### 498. Safety Buzzer

**Code Industries, Inc.: This com**pany has marketed an instrument

(*Continued on page* 100)

*Since 1946,*

# MERCURY HAS MOVED FROM 11th TO 7th PLACE IN TOTAL INDUSTRY SALES

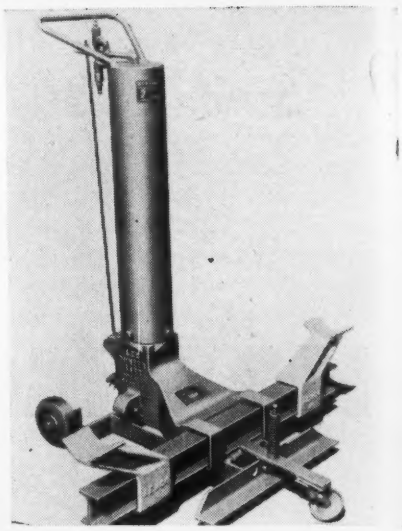
*Another reason it pays to travel with* **MERCURY**

MERCURY DIVISION, FORD MOTOR COMPANY, 6200 WEST WARREN, DETROIT 32, MICHIGAN

that warns the driver with a buzzer sound when he exceeds the speed limit. Said to fit all cars, the Audio Speed Informer is claimed to be interchangeable between cars and simple to install. Precision built with jeweled movement, the instrument operates in conjunction with the speedometer, according to the maker.

### 499. Bumper Jack

**Automotive Equip. Mfg. Co.:** A spring-mounted swivel type caster named "Flying Saucer," now standard equipment on the latest Lee bumper lift, allows freedom of movement while placing the lift. It then retracts under load to permit full contact for the base of the unit, the maker states. Accord-



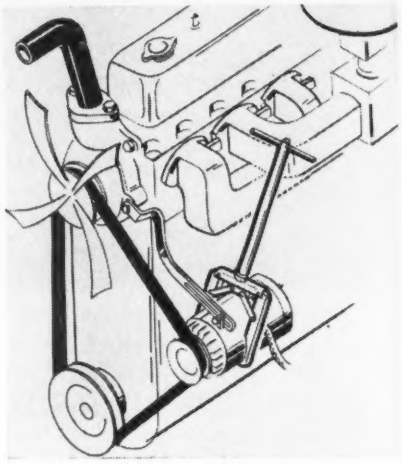
ing to the company, improvements include a new control grouping with an offset handle for maneuvering the lift and a safety latch release which permits lifting and lowering with one hand.

### 500. Feeler Gage

**Herbrand Tools:** The feeler gage recently announced by this company contains 7 blades from .016 to .021 inches. It is said to provide all the necessary gages required for adjusting tappets on all new Ford cars and trucks and Studebaker products. Offset blades are designed to provide clearance over the manifold and help prevent injury when working on hot engines.

### 501. Fan Belt Tool

**Dayton Rubber Co.:** Removal of fan belts is claimed to be simpli-



fied with the tool developed by this company. "Quik-Changer" provides a non-slip grip on the generator so that it can be moved for

(*Continued on page* 104)

**because:**
- **Lining is ground to fit arc of drum.**
- **Produces precison arc in seconds.**
- **Handles all shoes for drums 9" to 16¾" in diameter.**
- **Abrasive sleeve is quickly replaceable.**
- **Eliminates "wear-in" periods and free adjustments.**
- **Built-in vacuum system prevents flying dust.**

*Write for a demonstration in your own shop*

AMMCO TOOLS, INC. 2102 Commonwealth Ave., North Chicago, Ill.

# *This* is Perfect Circle NURLIZING...

## finest method of restoring worn pistons!

**NURLIZING** —Perfect Circle's *original* method of resizing by knurling, is the *accepted* standard of the industry! *No other method* of piston resizing can match this acceptance! Here's why:

**FIRST** —Over 8,500,000 installations have proved these 4 benefits of Perfect Circle NURLIZING:

- Eliminates piston slap
- Gives closer piston fit without scuffing or scoring
- Assures adequate piston lubrication
- Reduces engine overhaul costs

Nurlizing itself is fast, accurate, economical, *permanent!*

**SECOND** —No other method of piston resizing can match the advertising support given NURLIZING!

- 58,835,000 sales messages in Saturday Evening Post, Popular Mechanics, Popular Science Monthly and Mechanix Illustrated!
- 3,415,000 sales messages in the major automotive magazines!
- Over 1,200,000 stuffers, manuals, posters, banners, stickers and electric flasher signs!

This terrific pre-selling of the piston resizing market has helped make NURLIZING "firstest with the mostest"! A continuing program, harder-hitting than ever, will further build the NURLIZING market for even greater profits for the wise Doctor of Motors.

Perfect Circle Corporation, Hagerstown, Indiana.
The Perfect Circle Co., Ltd., Toronto, Canada.

***Beware of imitations . . . insist on the original***

# Perfect Circle

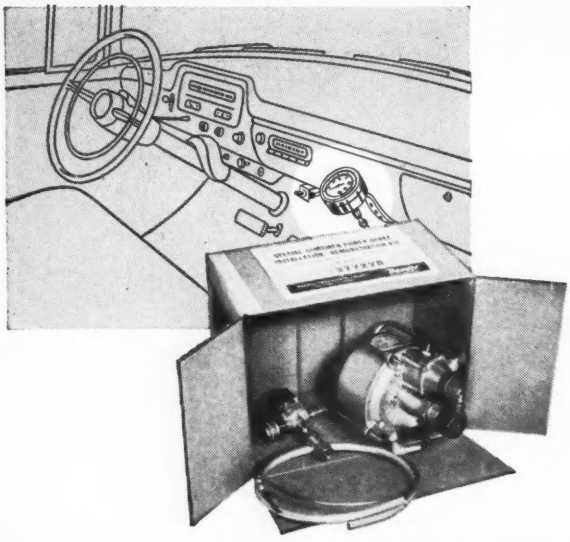
## Nurlizing

*The Standard of Comparison*

# DEMONSTRATION SELLS

## *the silent, powerful, convincing,*

# BENDIX POWER BRAKES



### SPECIAL LOW-COST DEMONSTRATION KIT FOR YOUR OWN CAR STARTS YOU IN THE BIG, NEW POWER BRAKE BUSINESS

Now you can demonstrate Bendix Power Brakes with just the flick of a switch! This special Bendix Demonstration Kit for your *own* car will quickly start you on the way selling power brakes. It comes complete including all installation parts and a manual "on-off" demonstration switch and valve.

You merely take your prospect for a short ride. Let him drive. Let him brake the ordinary way—without power brakes. Then you flick the switch—conveniently mounted on the dash—to "on" and let him brake with the Bendix Power Brake in action. Here's dramatic, positive proof why he should have a Bendix Power Brake. And he'll realize it, too!

# POWER BRAKES!

## profit-packed way to sell

# FOR PASSENGER CARS!

Now is the time to get into the power brake business. The market is ready-made! The demand is heavy! The profit-picture is one of the most liberal you'll find! And here's the best part of it . . .

With the Bendix* Power Brake, you can get into this fast-moving business right away and get your share of sales in short order. All at a very low investment on your part, too!

Installation is quick and easy. For most cars, it takes less than an hour. There are only three simple connections to make and anyone around your shop can make them.

Call your local Bendix Power Brake distributor. He'll show you how to get going *right now* in the power brake business. Or write direct to factory Service Sales Department. *REG. U.S. PAT. OFF.

**PRODUCT OF THE WORLD'S LEADING BRAKE MANUFACTURER**

Bendix Products Division

THE NAME Bendix AVIATION CORPORATION MILLIONS TRUST

**BENDIX** PRODUCTS DIVISION **SOUTH BEND,** INDIANA

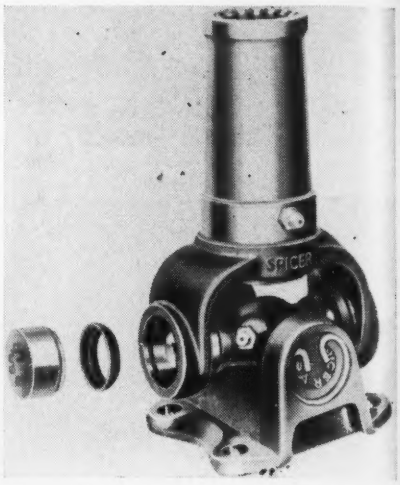
Export Sales: Bendix International Division, 205 E. 42nd St., N.Y. 17, N.Y.
Canadian Sales: Bendix-Eclipse of Canada, Ltd., Windsor, Ontario, Canada

STROMBERG CARBURETORS—Cars, Trucks, Industrial • BENDIX VACUUM POWER—Power Brakes—Passenger Cars, Trucks, Trailers • HYDRAULIC CONTROLS—Power Steering—Passenger Cars, Trucks, Trailers, Buses, Industrial, Agricultural • BENDIX BRAKES—Factory-New Lined Shoes, Lining Segments, Repair Parts • BENDIX* METALCLENE—Metal Parts Cleaner • BENDIX* ECONOCLENE—Multi-Purpose Cleaner Concentrate.

inspection or installation of a fan belt without loosening the pivot bolt. According to the maker, the tool cuts installation time and prevents damage to electric cables and other engine parts.

### 502. Joint Seal

**Dana Corp.: A synthetic rubber** lip-type seal, improvement for extra service on Spicer automotive universal joints, is being marketed by this company. The new synthetic rubber lip-type seal maintains seal contact under all universal joint operating conditions, the company claims. The seal is said to be capable of relieving lubrication gun pressure without seal damage and permitting bearing flushing during relubrication. It will be furnished in Spicer service replacement kits for use when overhauling the universal joints of older vehicles.



**Saves Buying New "Third Arm" and "Bracket Assembly"**

**Make faster, more profitable repairs on *1949-54 Chevrolet passenger cars and trucks* with this precision-engineered, fully guaranteed part!**

- Helps mechanics make accurate steering fine adjustments.
- Improves car steering at high road speeds.
- Prevents excess wear on king pins, tie rod ends and other steering line parts.
- Repair made without removing original "steering third arm" and "bracket" from car.
- No special tools or machine work needed.

Thousands in daily use all over the Nation

Ask your jobber, or write us direct.

AUTOMOTIVE PRODUCTS

**NATIONAL MACHINE WORKS, INC.**

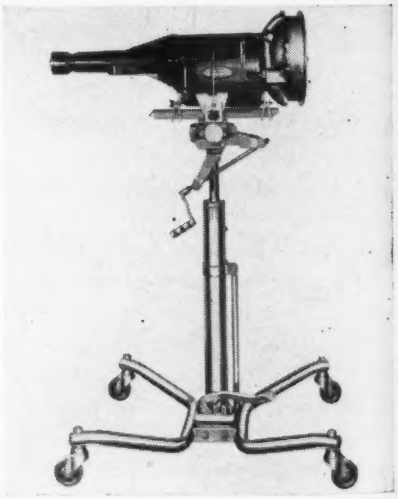
P. O. BOX 4305 MANUFACTURER AUTOMOTIVE PRODUCTS OKLAHOMA CITY 9, OKLA.


### 503. Mud-Snow Tire

**Armstrong Rubber Co.: A different** tread design is the main feature of this mud and snow tire. Staggered grooves are said to increase traction forward and backward and prevent sideslipping. Interlocking cleats allow greater flexibility and larger, deeper bumper cars help eliminate sway, according to the manufacturer. A further claim is that the tire runs silently.

### 504. Transmission Jack

**Walker Mfg. Co.: Micro-adjust**ment "Bomb-Sight" controls are said to permit easy, safe removal and installation of the heaviest automatic transmission by one man with this company's latest



(*Continued on page* 106)

# 3M Super Weatherstrip Adhesive Stronger Than The Rubber It Holds!

Three basic kinds of weatherstripping used on all auto production lines. Arrows indicate binding surfaces. 3M Super Weatherstrip Adhesive holds all types equally well.

The startling test above demonstrates how the new 3M Super Weatherstrip Adhesive holds weatherstripping so tight that the rubber will tear when pulled . . . the bond to the metal won't loosen!

The tremendous strength of the new adhesive is most important today because of the new types and shapes of weatherstripping specified for new car models. New trunk and door designs put added stress and pressure on the weatherstripping and hence on the adhesive. 3M Super Weatherstrip Adhesive gives you a super strong, positive bond of rubber to metal . . . whether it has one bonding surface or two. In both types note how the rubber tears while the bond holds.

New 3M Super Weatherstrip Adhesive is a thin bodied, easy to use adhesive. It's quick drying and because of its light color, requires very little clean-up. Used and proven on the production lines, this new adhesive is now available to you through your regular 3M Distributor. Be sure you ask for 3M *Super* Weatherstrip Adhesive in the new "Scotch" Plaid package.

Remember . . . New 3M Super Weatherstrip Adhesive is stronger than the Rubber it holds!

# SHOP TIP
## *of the month*

*How to solve the rainy day water leak jam-up problem!*

Rainstorms usually bring a FLOOD of customers who want a water leak fixed—*right away!* The shop gets jammed and some customers get "hurry-up" jobs. Then you have call-backs—and that's bad!

You can spread those rainy day jobs over the sunny days IF you bone up on how to find water and dust leaks. Your 3M salesman has a manual on how to find 'em. It takes a little explaining and demonstrating which he will be most happy to do. Send us a card and we'll have him drop in. Write Advertising Dept. M4, 3M Company, St. Paul 6, Minn.

You'll save time and effort if you always use the *right* adhesive for the job. That's why it's smart to use the adhesives used on auto production lines—3M Specialized Adhesives:

**WEATHER STRIPPING**—for attaching and sealing use 3M Super and 3M Regular Weatherstripping Adhesives.

**WINDSHIELDS**—for taking care of those pesky leaks around the glass, 3M Clear Autoglass Sealer stops 'em quick. Colorless, so practically no clean-up needed.

**SEALING MOULDINGS** and embedding glass—always use 3M Autobody Sealer.

**UPHOLSTERY** and trim repairs. 3M Trim Cement is especially made for the job.

**HOLES AND SEAMS**—use a calk that stays put, never turns brittle. That's "Scotch" Calk and 3M Body Calking.

**SOUND DEADENING**—3M Autobody Deadener is the product to use.

**METAL FILLING**—use 3M Metal Filler, is easy to use, sets hard as the metal.

## THE RIGHT START FOR A PERFECT FINISH

**"3M" ADHESIVES** are used on top automotive production lines. Stock and use these specialized adhesives for sealing and holding repairs.

**"SCOTCH" MASKING PRODUCTS** work together to give you perfect, trouble-free masking every time.

**"3M" ABRASIVES** stay sharp longer, sand easier—completely outperform all others. Made for hand or machine, wet or dry sanding.

**"3M" SANDING TOOLS** save time, save work, increase efficiency. Order and use the "3M" Back-Up Pad Assembly, "3M" Disc Feather-Edger and the "3M" Cone Mandrel.

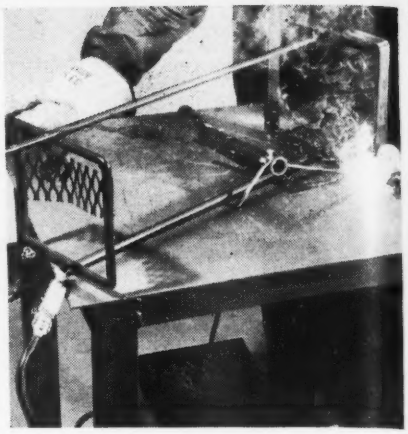
3M COMPANY

Made in U.S.A. by Minnesota Mining and Manufacturing Company, St. Paul 6, Minn.—also makers of "Scotch" Brand Pressure-Sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Scotchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives. General Export: 122 E. 42nd St., New York 17, N.Y. In Canada: London, Ont., Can.

service jack. Lifting capacity is 500 lbs., with 50% spare capacity for dislodging and engine support during removal of the unit. Uni-Cradle tilts the transmission through an 80 degree forward and 18 degree backward arc and pin-point aligning is made easy with "Axis-Centering" which rotates the transmission 16 degrees.

### 505. Welding Method

**Lincoln Elec. Co.:** "Selfweld" employs a special welding electrode and holder which locates the beginning of the weld, starts the arc, and feeds the electrode. The electrode angle and the travel speed are controlled by the design of the electrode and holder. The coating of the electrode touches



the work at all times so that the arc length is automatically determined. Melt-off rate controls welding speed, according to this company. The 100 ampere welding machine used with Selfweld is called the Lincwelder.

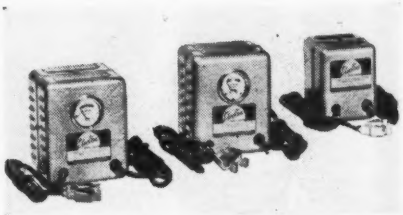
### 506. Terminal Dispenser

**Standard Motor Products Inc:** This company is now distributing wire terminals in a new "One-At-A-Time" terminal dispenser. The new terminal container is easy to open; it's dust-free; the package is durable so that it can be re-used by the mechanic as a container for other small parts.

To use the dispenser, the user opens a "sliding door" in the back, and spills out the terminals one-at-a-time as they are needed. With a snap of the fingers the package is closed again.

### 507. Battery Chargers

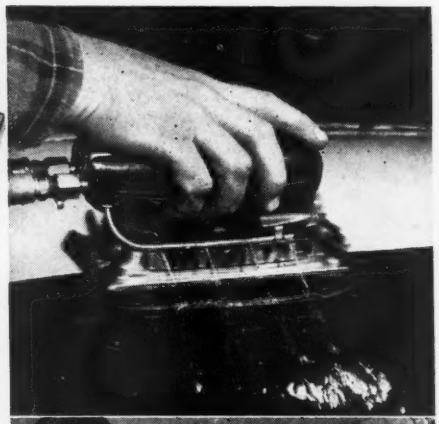
**Electra Mfg. Co.:** A battery can be fully charged by plugging this charger into any 110-120 volt A.C. outlet and snapping the charger clips on the battery terminals. An automatic circuit breaker protects the battery and electrical system in case of a short or overload. In addition, the chargers are said to



provide full ampere output capacity, a full wave selenium rectifier and a full capacity transformer. Three models are available in outputs of 10, 6 and 4 amperes.


Rapid Wet or Dry Sanding

WITH **NATIONAL MODEL 600**



LIGHTWEIGHT
FAST
VIBRATIONLESS

National's powerful, high-production Model 600 straight-line action air sander weighs only 5 pounds, yet operates at 3200 rpm. Rapid stock removal is assured by the 5/16" stroke and 25 sq. in. of abrasive area. Either felt or rubber backing pads are available . . . and a *built-in* water spray makes wet sanding easy.

National manufactures a complete line of block sanders, offering either orbital or straight line action . . . electric or air driven.

NATIONAL NS SANDERS

*Write for Literature Today*

NATIONAL AIR SANDER, INC.
2820 AUBURN ST., ROCKFORD, ILLINOIS

# WEATHERHEAD BRAKE HOSE, *Original Equipment* YOUR BEST REPLACEMENT BUY

Safeguard your reputation for reliability with Weatherhead brake hose and fittings. Its continuous use as original equipment is proof of its superiority in replacement. *Every foot* of hose is pressure tested; and this safety check is followed by the testing of *every* finished assembly in Weatherhead's rigid inspection. Your Weatherhead jobber carries a complete stock. If there's no supply in your area, write: The Weatherhead Company, Automotive Distributor Division, Dept. D, 300 East 131st Street, Cleveland 8, Ohio.

Get the BA-411 assortment of fastest moving hydraulic brake fittings.

**WEATHERHEAD**

**THE ORIGINAL EQUIPMENT LINE**

*Remember:*

"The Weatherhead line is EASY to stock, EASY to sell, EASY to install"

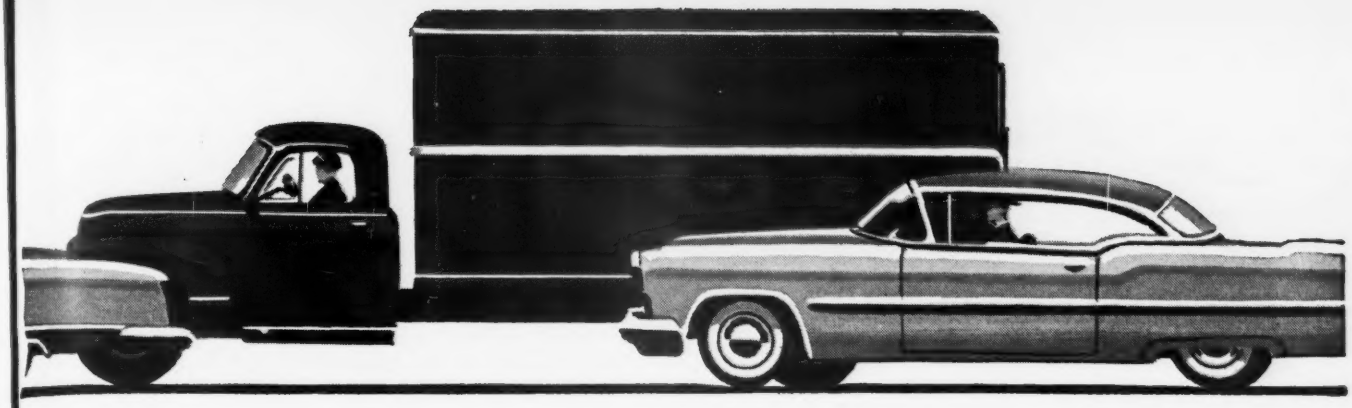
CAPT. EASY

# *These great lines of original equipment parts are*

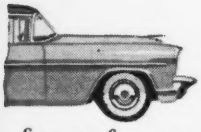
# AVAILABLE FROM YOUR UMS

***Almost half of the cars on the road use these world-famous***

## GENERAL MOTORS PRODUCTS



# Independent Automotive Wholesaler



For steady sales, you can't beat these well-known products that carry a world-wide reputation for fine performance. And for a ready-made market, no other lines can match the popularity of the products you see here. Every other car that passes your door is equipped with at least one of these products—most of them with several. They're the foremost choice of automotive engineers and motorists alike, for a standard of quality that has made General Motors products world-famous.

See your United Motors independent wholesaler now—and get started on the road to better business with these best-known, most-wanted lines.

*other* UNITED MOTORS AUTOMOTIVE LINES

HARRISON RADIATORS • **MORAINE** GASOLINE FILTERS • **DELCO** CLOCKS

KLAXON HORNS • AC GAUGES, SPEEDOMETERS • **ROCHESTER** LIGHTERS

**DELCO** ELECTRONIC PARTS • **DELCO** AUTOMOTIVE MOTORS • Saginaw JACKS

GENERAL MOTORS PRODUCTS GM GENERAL MOTORS SERVICE UNITED MOTORS LINES

# 1955 Studebaker . . . Continued from Page 112

## Mechanical Specifications on 1955 Studebaker Engines

| | President | Commander | Champion |
|---|---|---|---|
| Type | OHV 90-deg. V-8 | | L-head 6 |
| Bore (in.) | 3 9/16 | 3 9/16 | 3 |
| Stroke (in.) | 3 1/4 | 2 13/16 | 4 3/8 |
| Displacement (cu. in.) | 259 | 224 | 185 |
| Compression Ratio | 7.5 to 1 | 7.5 to 1 | 7.5 to 1 |
| Bhp (max.) | 175 @ 4500 rpm | 140 @ 4500 rpm | 101 @ 4000 |
| Torque (lb. ft.) Max. | 250 @ 3000 rpm | 202 @ 2800 rpm | 152 @ 1800 |

larger displacement version of the Champion Six, rated 101-hp. It may be well to mention at this point that all models disclose special attention to noise reduction, as well as reduction in exhaust system back pressure through new exhaust manifolding on V-8's, larger diameter tailpipes and mufflers. Besides adding to quietness, this project has contributed to still greater engine efficiency.

Coming to the big engine story, it is interesting to note that Studebaker capitalized on the intrinsic design advantages inherent in its version of the V-8 to create two engines of different ratings while using essentially the same basic elements, except where noted.

How this has been accomplished makes interesting reading. Reference to the specifications table shows that the bore has been materially increased and is the same on both V-8's. The difference in displacement is accounted for by the difference in stroke, the President engine retaining the stroke of the former V-8.

Interchangeability has been developed to a maximum degree. Connecting rods are the same for both engines and are interchangeable with rods for the previous engine. The crankshaft for the President engine is the same as for the former model, except for the amount of balance required with larger pistons. The shorter stroke crankshaft for the Commander en-

(*Continued on page* 112)

**"Think hard now, where did you leave it? A lighted cigar can cause a lot of trouble in a shop."**

# Most common causes of headlamp troubles...

## *and how G-E headlamps prevent them*

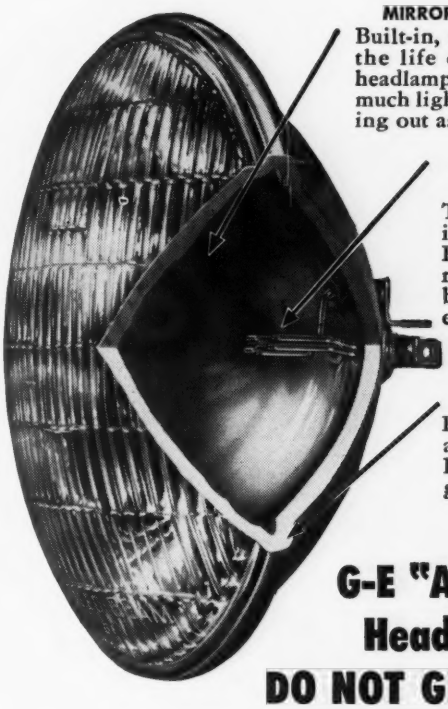
PICTURED above are the most common causes of headlamp problems. But they can't develop with a G-E all-glass headlamp.

Here's why! The General Electric headlamp has no inner bulb to blacken. Rugged filaments take its place. Because the G-E headlamp is all one piece, dirt and moisture can't get in. Condensation can't form inside the lens to cut light output. Dirt and moisture can't deteriorate the reflector. Water can't accumulate in the bottom of the lamp.

Tests prove General Electric headlamps average 99% as much light *just before burning out as when new.*

A recent survey shows one of every six cars has at least one deficient headlamp. With General Electric headlamps you have the perfect solution to your customers' headlamp problems.

Cash in on this big market. When you spot a deficient headlamp, tell the driver about G-E all-glass headlamps and how they don't grow dim. Start checking headlamps today!



**MIRROR-LIKE REFLECTOR**
Built-in, stays efficient for the life of the lamp. G-E headlamps average 99% as much light just before burning out as when new!

**NO INNER BULB TO BLACKEN**
The G-E headlamp is one big bulb. Rugged filaments replace small inner bulb so that blackening is no problem.

**ALL ONE PIECE**
Reflector and lens are fused together. Dirt, moisture can't get in to steal light.

**G-E "All-Glass" Headlamps**
**DO NOT GROW DIM!**

**GENERAL ELECTRIC**

# 1955 Studebaker . . . Continued from Page 110

gine naturally is new, although main bearings remain interchangeable throughout.

Cylinder heads are new, interchangeable on both engines, feature fully machined combustion chambers. Valve diameters have been stepped up—1 21/32 in. nominal diameter for the intake valve; 1 17/32 in. for exhaust valves. This necessitated a change in valve spacing and a corresponding change in combustion chamber geometry. Pistons, naturally, are new. Although they are of the same diameter they differ in detail and, consequently, are not interchangeable. These detail differences arise from the use of connecting rods of the same length; also because of the difference in combustion chamber volume when using the same heads. Piston ring set-up remains identical.

President models will offer as optional a new Detroit Gear automatic transmission, capable of handling the increased torque, similar in basic design to the Commander transmission but incorporating certain changes in design details. One characteristic common to the automatic transmissions in the new line is that all have controls arranged to start in first gear to provide for fast get-away.

The President transmission will handle 250-lb.ft. torque, boasts quieter gearing and other improvements designed to reduce noise. One of its major features is an improved valving system, said to offer the following advantages: increased converter pressure to reduce cavitation and noise; provides for smoother shifts; has an additional valve to apply both forward and low bands to pick up first gear when starting. The latter is one of the elements accounting for increased capacity. Added capacity in the front direct drive clutch and minor changes in the torque converter also aid in stepping up capacity.

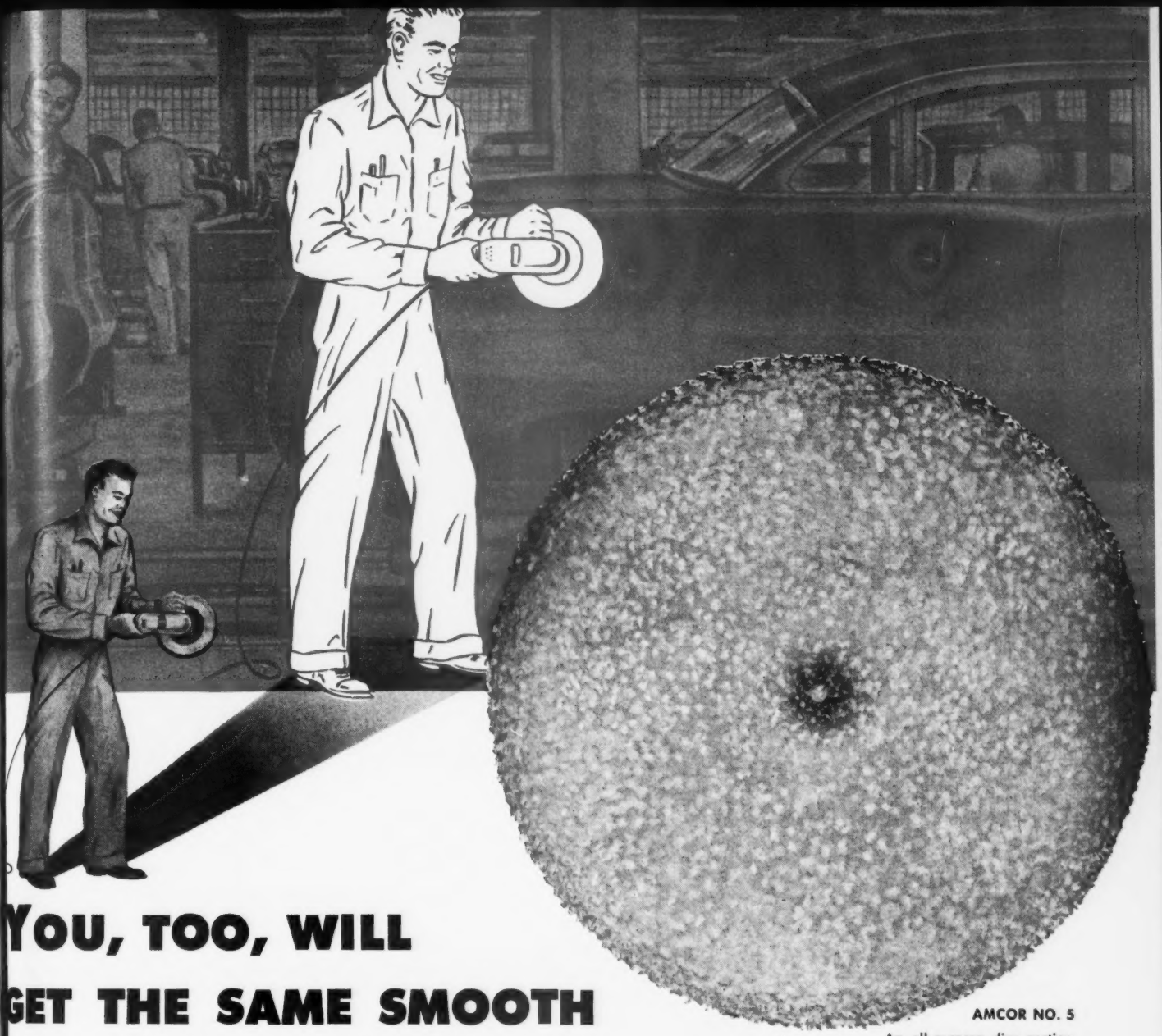
One of the basic differences between the two V-8's is in the induction system. The President engine mounts a four-barrel carburetor with a new intake manifold with individual passages; while the 140-hp version uses the same manifolding and carburetor as on the previous Commander engine.

Although the valves are mounted on wider centers, the rocker shaft and its bearing structure remains unchanged, except that the rocker arm pad is made wider.

Fuel pump location has been changed radically to promote better cooling and freedom from vapor lock. Whereas the fuel pump originally was mounted overhead, it is now lowered to camshaft level and is mounted in front to take advantage of direct fan cooling.

As mentionad earlier, the exhaust manifolding on V-8 engines is new, features larger ports and passages, improved streamlining

(*Continued on page* 114)



# YOU, TOO, WILL GET THE SAME SMOOTH FINISH WITH PLR* PROVEN

**AMCOR NO. 5**

An all-purpose disc particularly designed for refinishing, waxing and polishing. When worn down from long use as a dry polisher, it may be used as a cutting disc for wet clean-up operations.

New car dealers, service managers, autobody refinishers, garagemen and gasoline station owners are called upon day after day to give customers' cars that "perfect look". It's a challenge which is being successfully met — and profitably too — with the use of Amcor Polishing Discs—the identical pads which have become the accepted standard on many new car finishing lines. It is Amcor's continuing research on these production lines which has brought to the individual operator wherever he may be the same degree of skill found in the biggest body plant. For Amcor pads are machine made to give perfect results. Their controlled uniformity keeps every pad the same perfect quality, the same exact size, with the same rugged durability. For slush-rubbing operations, for cutting, for semi-finishing, and for final finishing and dry polishing, there's an Amcor Disc in one of three types that will do the job better, faster, easier. Try Amcor and see!

# AMCOR POLISHING DISCS

duction Line Research

***See Your Jobber or Write for Descriptive Folder***

AMCOR

**UTOMOTIVE MATERIALS CORPORATION**

**2300 FISHER BUILDING, DETROIT 2, MICHIGAN**

# 1955 Studebaker . . . Continued from Page 112

of passages. Intake manifolds on the President have had similar treatment—larger passages with more attention to friction free flow.

On the President engine, in particular, an oil bath air cleaner and silencer is specified to assure proper silencing.

Generally speaking, the other details of the engines—water cooling and pump, lubrication system, ignition system, etc., remain the same as on last year's V-8.

The Champion engine, on the other hand, was given different treatment to attain an increase in rating and displacement. Here the basic engine remains substantially the same except for an increase in stroke which requires a new crankshaft.

Connecting rods and big end bearings remain the same and are interchangeable with the previous engine. Although the pistons are of the same diameter as before they differ in detail, provide for clearance around the crankshaft.

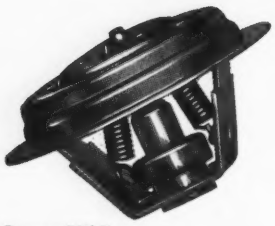
Distinctive feature of the new engine is an improved combustion chamber geometry said to reduce explosion pressure shock, thereby effecting quieter and smoother operation.

President brakes are the same '54 Commander brakes, except for a thicker lining on the front secondary shoes to provide longer life. Power brakes are available on special order for all models, the pedal pad being the same as on automatic drive but mounted lower, about four inches above the floor board.

Ignition key starting is on all models. Vinyl-covered wiring harness is used throughout. President models are equipped with deluxe horns having three-tone harmony. Electric windshield wipers are standard on President, extra cost on Commander. Champion models are equipped with vacuum operated windshield wipers. All instrument panels are new and basically alike on all models.

The new pressure type radiator caps hold 12-psi pressure and are of atmospheric vented type. In combination with a redesigned dome-shaped reserve tank radiator, the new cooling systems are adapted for higher operating pressures, provide for higher boiling point of the coolant.

Interiors are new with many special features on the President. Gold plated hardware is a feature of President State sedans, trim plates behind door hardware on these models being of Mylar, a gold-plated plastic. The lower section of the instrument panel on these models is gold finished while the radio grille is gold with a chrome frame. Sponge rubber vinyl covered crash pads on the instrument panel of these models match the interior garnish molding colors.


Power-Pill Type

Bellows Type

That rough, tough "old man Winter" is ready to pounce on unwary motorists . . . and on *jobbers* or dealers who haven't stocked up with AUTOSTAT*.

It's pretty late, but fast action right now will enable you to check your stocks and order an adequate inventory. Even more important, you can still give your customers a last-minute needling.

There's money in automotive thermostats for jobbers and dealers who are willing to hustle for it. And the AUTOSTAT line is the *preferred* line . . . with models to fit any car, truck, bus or tractor . . . with both the bellows type and the Power-Pill type.

If you need more information on prices, proper stocking, or the sales opportunities afforded by this fast-moving line, write Dept. TMA, Fulton Sylphon Division, Robertshaw-Fulton Controls Company, Knoxville 1, Tenn.

**AUTOSTAT***

*Trade Mark Reg. U. S. Pat. Off.

***MOTOR THERMOSTATS BY FULTON SYLPHON***

Mr. Vincent Sillitta, Traffic Manager of Clarostat Mfg. Co., Inc., discloses

# "How this guided missile gets there on time!"

"... 5, 4, 3, 2, 1, *fire* . . . and a Clarostat product helps head the missile for an 'enemy' bomber!

"But before its deadly rendezvous, that tiny part of the missile's 'brain,' a Clarostat resistor, had to keep another vital appointment—with the Guided Missile production schedule.

"That date was kept by Air Express!

"We ship up to 15,000 pounds of Clarostat Resistors per month by Air Express. Their sizes range from the one mentioned above—finer than a human hair—to shipments weighing one hundred pounds and more.

"With Air Express help, we can meet extremely exacting delivery specifications. Yet most shipments cost *less* than by any other air service. A 25 lb. shipment from Boston to Toledo, for instance, costs $6.45. That's 5¢ *less* than the next lowest air carrier—and the service can't be compared!"

It pays to express yourself clearly. Say Air Express!

**Air Express**

**GETS THERE FIRST** *via U.S. Scheduled Airlines*

**CALL AIR EXPRESS** . . . *division of* **RAILWAY EXPRESS AGENCY**

# Teamwork . . . . . Continued from Page 47

that matter, in any business.

Recognition of that fact is demonstrated year after year as automobile repair shops and dealers are among the most numerous clients of business engineering firms. Somewhere along the line when car sales increase, repair volume goes up, parts departments expand and an original two or three man operation becomes saddled with a weekly payroll numbering ten, twenty or a hundred, a call for help in getting the mess organized is very likely to go out.

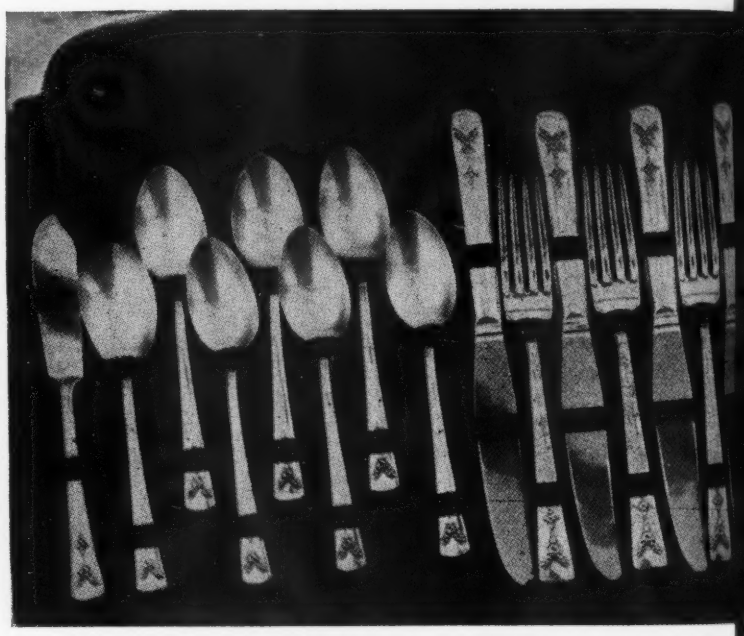
Just as the ambitious car owner may learn to adjust his own carburetor, replace a worn bearing or adjust brakes, it is possible for the average reader of MOTOR AGE whose business may need an organizational overhauling to do it for himself. It isn't easy and it will take time. Specialists in the field usually need upward of two hundred concentrated hours to do the job. But it can be done, and just as the amateur mechanic sometimes avoids your charge by doing his own repair work, maybe you can save the several thousand dollars you might otherwise have to pay specialists to set up an organization plan by doing it yourself over a period of time. (Unlike the ham mechanic, you aren't in danger of completely wrecking anything.)

This is the first of a series of discussions which will outline the steps involved in setting up a practical organization plan.

Do you need such a plan? Let's apply a check and then you decide. Whether you employ two people or hundreds, good organization is lacking unless you can answer with an unqualified "yes" (no hedges) to the following six questions:

1. Is responsibility specifically assigned to someone in your organization (and only one person) for each job that has to be done if the business is to operate properly?
2. Does each have all the authority necessary to properly discharge his responsibilities?
3. Is the "chain of command" clearly defined so that each employee has just one "boss"?
4. Does everybody fully under-

**"It's nothing to get excited about —The dealer guaranteed it for ninety days!"**

**LIQUI-MOLY OFFERS YOU 2**

**1.** Reg. $22.90—26 Piece International Silverware Set in beautiful anti-tarnish tuck-away case.

**SPECIAL DEAL 54-E** — **RETAIL VALUE**

Beautiful 26 piece "Rosebud" Pattern Silverware Service for 6. Plated with silver *purer* than sterling. Made and guaranteed by International Silver Co. ..... $19.95
Anti-tarnish tuck-away case. Holds all 26 pieces. ..... 2.95
2 cases of 10.5 oz. LIQUI-MOLY @ $21.60 per case. ..... 72.00

**Total Value** ..... $94.90
**Dealer's Cost** ..... **$45.00**

**SPECIAL DEAL 54-D**

Same as 54-E, except Dealer gets *FREE* $4.75 value display rack, in place of tuck-away case. **Dealer's Cost** ..... **$45.00**

LIQUI-MOLY is the new wonder Lubricant!

Motor Vehicle Research Bureau tests prove LIQUI-MOLY reduces oil use 56% . . . gas use 17%. LIQUI-MOLY actually plates internal engine parts reducing friction 60% . . . cuts repair bills up to 51%. Sell high profit, fast turnover LIQUI-MOLY.

stand what he is responsible for, how much authority he has been delegated and to which *one person* he is responsible for satisfactory performance of his job?

5. Has everybody from the General Manager down to the car hiker or office girl been selected strictly on the basis of ability and willingness to do his best for the compensation offered?
6. Is a qualified and trained substitute available for each key person so that your organization continues to operate smoothly regardless of who may be missing?

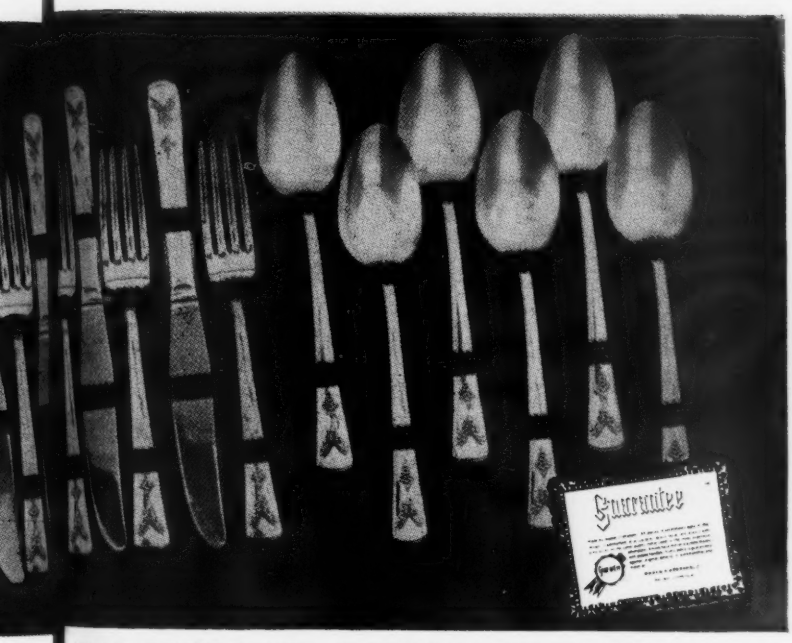
If you can answer all of those questions with a definite affirmative, your business is well organized. Good organization, in itself, doesn't do any work or produce revenue but it constitutes the best known guarantee that employees will do their jobs well and contribute full shares to the type of operation that produces satisfactory profits.

Here is why. In a well organized business, each employee, from bottom to top, is virtually "in business for himself." He is given the opportunity and the inspiration to do the best job of which he is capable, whether that job happens to be washing cars, handling the parts department or running the whole business. The potential results from that kind of organization can best be conveyed by a couple of "for instances."

There was the dealer in Texas who had three adequately bright young fellows in his parts department. Results were not good, not bad; monthly reports showed almost satisfactory profits but service to both the shop and over-the-counter buyers was often slow; accessory displays were hardly of the type you would call inspired and seldom clean and orderly; special trips to pick up needed parts from the local jobber were necessary a little too often. Why? Any one of the kids might have done a very excellent job of running the department but none of them had ever been given definite responsibility and authority. The oldest employee was vaguely considered the head man, but so vaguely that his directions to the others were never more than audibly expressed hopes. Sometimes they did what he thought was needed; more often, they didn't. An organization program, under which responsibility and authority throughout the agency was clearly specified, corrected that situation.

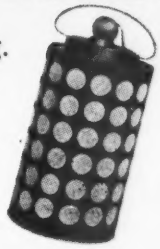
It was in Ohio that a dealer's chief complaint was his difficulty in coming out right on book prices for repair jobs. This was another instance of putting a man in a job without clearly defining the job; a shop foreman whose authority was so weak that he usually wound up begging a mechanic to take a given assignment and, needless to say, such jobs were never completed in a terrific hurry. While the final solution was a guarantee and percentage arrangement with the mechanics, based on meeting and beating the standards, the method was installed on the suggestion of the SHOP FOREMAN, who became that in capital letters under a prac-

(*Continued on page* 118)


**EXCITING NEW PREMIUMS!**

**2.** Reg. $1.98—insulated Jolly Thermo Jug.



**SPECIAL DEAL 202** — **RETAIL VALUE**

Jolly Thermo Jug keeps drinks piping hot for hours. Made by Makers of famous Skotch Coolers and Grills. .....$ 1.98
1 case 10.5 oz. LIQUI-MOLY @ $21.60..... 36.00
Four 2 oz. tubes of Gearlube Booster ..... 5.00
PLUS "Silent Salesman" Display Rack..... FREE
**Total Value** .....$42.98
**Dealer's Cost** **$25.00**

**FREE**
Display rack with Deals 54-D & 202

**SPECIAL DEAL 54-F** — **RETAIL VALUE**

Jolly Thermo Jug .....$ 1.98
1 case 10.5 oz. LIQUI-MOLY @ 21.60 ..... 36.00
**Total Value** .....$37.98
**Dealer's Cost** .... **$22.50**

**DEALERS:** See your Jobber Salesman for complete details on these terrific deals.

**MOLY MOTOR PRODUCTS CORP., 1155 Broadway, N. Y. 1, N. Y.**

## Teamwork . . . . . Continued from Page 117

tical organization program.

These examples illustrate some of the more simple and obvious benefits that can come from good organization. Suddenly sparked sales departments, better trade-ins and used car deals, improved accounting information, reduced "policy allowances" and many other indirect benefits are likely to result when, to quote one gratified operator after installation of a clear-cut and definitely stated organization plan, "Suddenly and at last everybody in the place knows what he's trying to do." And he added, "For the first time in years I can relax."

Here are the necessary steps to setting up that kind of organization, and through which future discussions of this series will seek to guide you:

1. Catalogue every task and activity for which someone must be responsible if your business is to operate properly.
2. Group these responsibilities into practical departmental and subdepartmental line-ups for assignment to qualified people.
3. Define the authority each person must have to be able to do his job properly.
4. Put the plan in writing.
5. Name properly qualified people to each key position.
6. Make the plan clear to everybody, put it to work and *make* it *work*.

To get a start on this project, arm yourself with a pencil and block of paper and start listing *everything* that has to be done if your business is to operate properly. Think of both daily tasks and long range items that need to be checked or watched. Suggestions for amplifying your lists and for grouping them into correct departmental line-ups will be covered in our next discussion.


# DON'T WAIT!

**Car-Skin Always Brings the Customers Back for More!**

**CALL YOUR JOBBER TODAY — WATCH YOUR PROFITS GROW!**




**CAR-SKIN RECONDITIONER**
Used before Tempered Wax, this Reconditioner restores any finish to its original brilliant color. No acids — nothing harmful.

8 OZ. SIZE
ALSO GALLONS AVAILABLE

**CAR-SKIN PRODUCTS CORPORATION**
**Flemington, N. J.**

**"—don't know when I've ever borrowed such inferior tools."**

## Production to Rise At Flex-O-Tube

Flex-O-Tube Division of Meridan Corporation has completed its move and is in production in its new half-million dollar modern plant in Inkster, Mich. According to W. W. Wasson, vice president and general sales manager, the greater efficiency of the single-level plant will permit a production increase of 50 per cent. The plant's existing 52,000 sq. ft. of floor space can be expanded to 300,000 sq. ft.

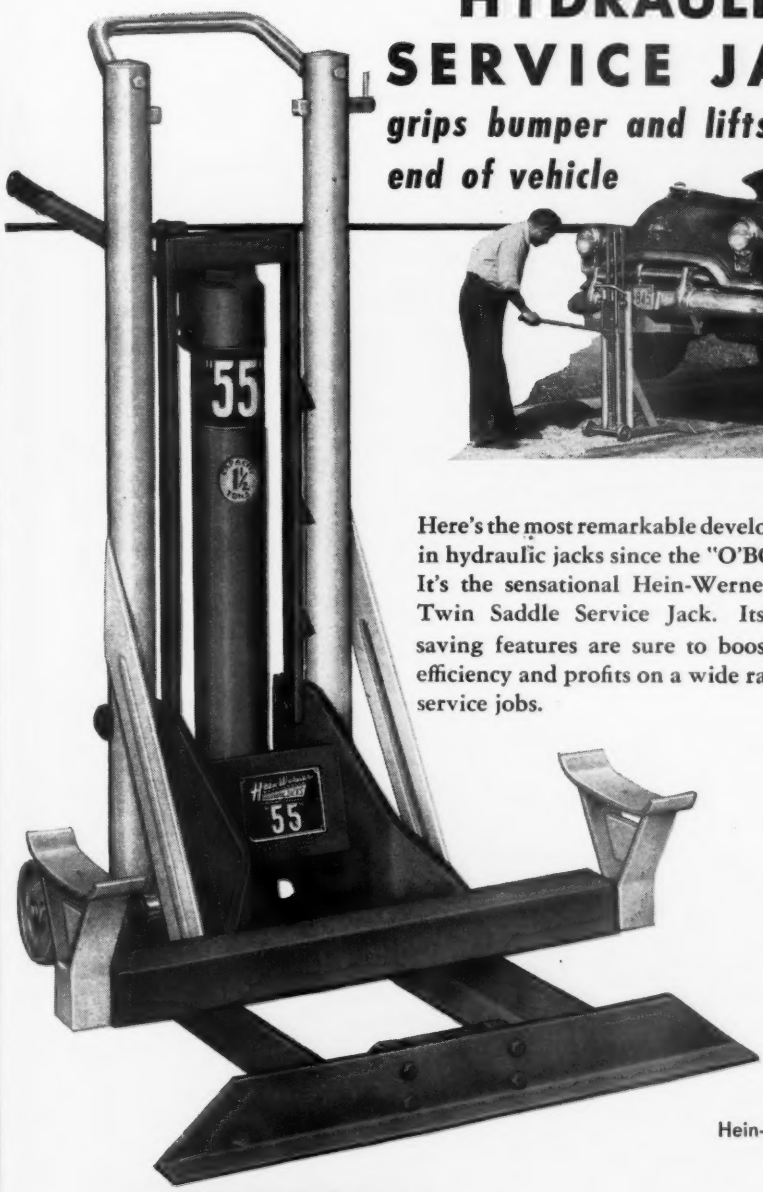
A Proven Product...

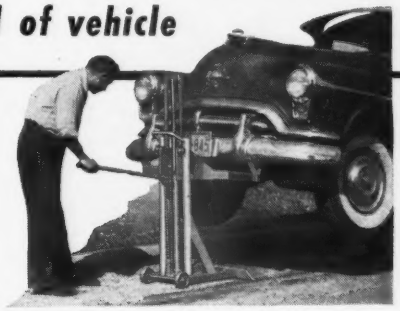
# Over 20,000 in use!

# HEIN-WERNER "55"

## Twin Saddle HYDRAULIC SERVICE JACK

***grips bumper and lifts entire end of vehicle***



Here's the most remarkable development in hydraulic jacks since the "O'BOY"... It's the sensational Hein-Werner "55" Twin Saddle Service Jack. Its time-saving features are sure to boost your efficiency and profits on a wide range of service jobs.

**HYDRAULIC POWER—CAN BE USED ANYWHERE.** No need for air lines . . . Ideal for wash rack, shop, driveway, or curb service.

**CONTACT AND UP IN LESS THAN A MINUTE.** The "55" rolls easily to the job on malleable iron wheels. Spring suspended positioning roller on front end speeds spotting under bumper. Distance between saddles adjustable from 24¾" to 41½" . . . with safety stops. Only minimum pumping effort required to raise load. Steady hydraulic power is always under complete control of operator. Hydraulic power unit is regular 3 ton Hein-Werner truck jack as made for over 20 years. Safety valves set at 1½ tons.

**LIFTS ENTIRE END OF VEHICLE.** The "55" lifts all cars and light trucks by the bumper, giving free access to both wheels simultaneously.

**FREES WHEELS FROM DEEP FENDER SKIRTS.** Operator obtains unobstructed access to both wheels for faster tire changing, wheel balancing, washing, brake service, chain installation, lubrication of springs, etc.

**THREE POSITIVE AUTOMATIC SAFETY LOCKS.**

***suggested dealer net*** **$79.85**

**See the amazing "55" at your H-W Jobber today. Ask about purchasing on easy time payment plan.**

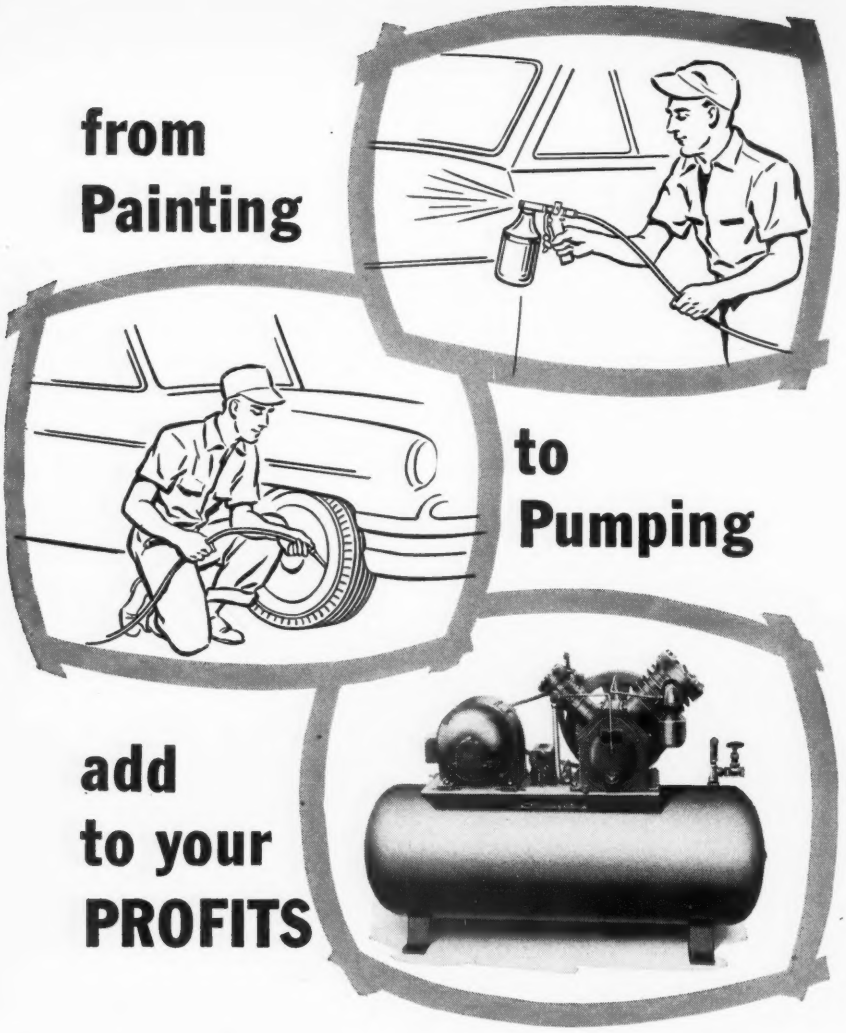
Hein-Werner manufactures and sells more hydraulic jacks than any other company in the world today.

Hein-Werner HYDRAULIC JACKS

## HEIN-WERNER CORPORATION

**WAUKESHA, WISCONSIN**

The complete Hein-Werner line includes: Under-Axle Jacks of 1½ to 100 tons capacity . . . "Bumper-Lift" Jacks for passenger cars . . . "Swift-Lift" and Service Jacks for shop use . . . Adjustable Car Stands . . . "Push and Pull" and "Pushmaster" Jacks for body, fender, and frame repair work.




# with an I-R Compressor

Every Ingersoll-Rand Air Compressor for automotive use, from ½ through 15 hp, has a *combination* of design and construction features that add up to greater value—extra profits for you.

Valves, for example, stand up to tough service, require little or no maintenance. Finned multiple intercooler tubes take off heat at maximum efficiency—compressors run cool, give extra years of service. Centrifugal unloader prevents compressors from starting against pressure—eliminates motor overloading at starts.

And these are just a few of the many pioneer features of Ingersoll-Rand compressors that help give you long service at low cost—result in greater savings—higher profits.

For complete information on Ingersoll-Rand Type 30 Compressors for automotive use, write today for form 1500-C and the name of your nearest I-R jobber.

**Ingersoll-Rand**

3-115 11 Broadway, New York 4, N. Y.

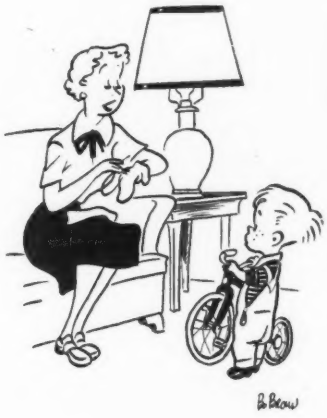

## Plans Drafted for NADA Convention

The Convention Committee of the National Automobile Dealers Association met in Chicago recently to draft plans for the 1955 NADA Convention.

Following the committee meeting in the Conrad Hilton Hotel, which will be the headquarters for NADA's annual meeting, January 29 through February 2, 1955, Committee Chairman Frank H. Yarnall announced that the three-day convention and five-day exhibition will sketch a blueprint for dealers to help them increase profits.

"A blueprint for profit is our program objective," Mr. Yarnall said. "The first two days of the exhibition, which opens Saturday, January 29, will feature special service and selling clinics. The three-day convention, which opens officially Monday, January 31, will delve into business management, expense control, customer relations, sales, advertising, inventory control, and many other timely topics to complete the 1955 'Blueprint.' "

The 1955 exhibition promises to be the biggest and best in NADA's history. It will occupy approximately 27,000 square feet of the Conrad Hilton's basement.



**"You can't have a baby brother because your daddy is in the army and can't get a leave to bring the stork home!"**

# GET YOUR $HARE NOW!

## FRAM Clean Oil Month Blankets U.S.A.!

It's the biggest FRAM Clean Oil Month in history! Thousands of colorful FRAM billboards—on roads and highways coast-to-coast! (Look for them in your area!) *2-page* advertisement in *Colliers*, on *newsstand* October 14! All sending you customers for clean oil and FRAM Cartridges. Get your share of the oil and cartridge business! Call your FRAM distributor now! Get your streamer up and sell FRAM!

**FRAM®**
**OIL • AIR • FUEL • WATER**
**FILTERS**

FRAM CORPORATION, Providence 16, R. I. Fram Canada Ltd., Stratford, Ont.

# for Big Profits this Fall...

# Sell WEED

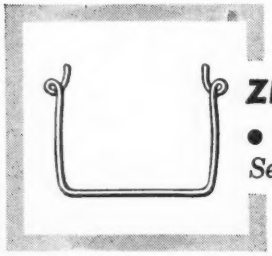
• Your customers know WEED Tire Chains—and strong national advertising will carry the WEED story to more and more motorists this season.

But you can't sell WEED Tire Chains that are standing in your jobber's warehouse. You need them on hand . . . the sooner the better. So check your stocks. Make sure you have ample supplies, especially in the most-wanted sizes. And be sure you have plenty of replacement cross-chains, and proper equipment for chain repairing.

## When you sell Weed V-Bar Tire Chains, remember:

- **They double the wear and double the bite on ice or snow . . .**
- **288 or more gripping points help stop shorter, straighter, safer . . .**
- **Opposite right-left construction gives two-way grip and balanced traction.**

Make sure of big profits this Fall.
Get those WEED Tire Chains ordered now!



### ZIP-ON Appliers Make It Easier to Put on Chains

• *Make sure every customer has them.*
*Sell a pair with every pair of* WEED CHAINS.

American Chain & Cable Company, Inc., Bridgeport, Conn., York, Pa.

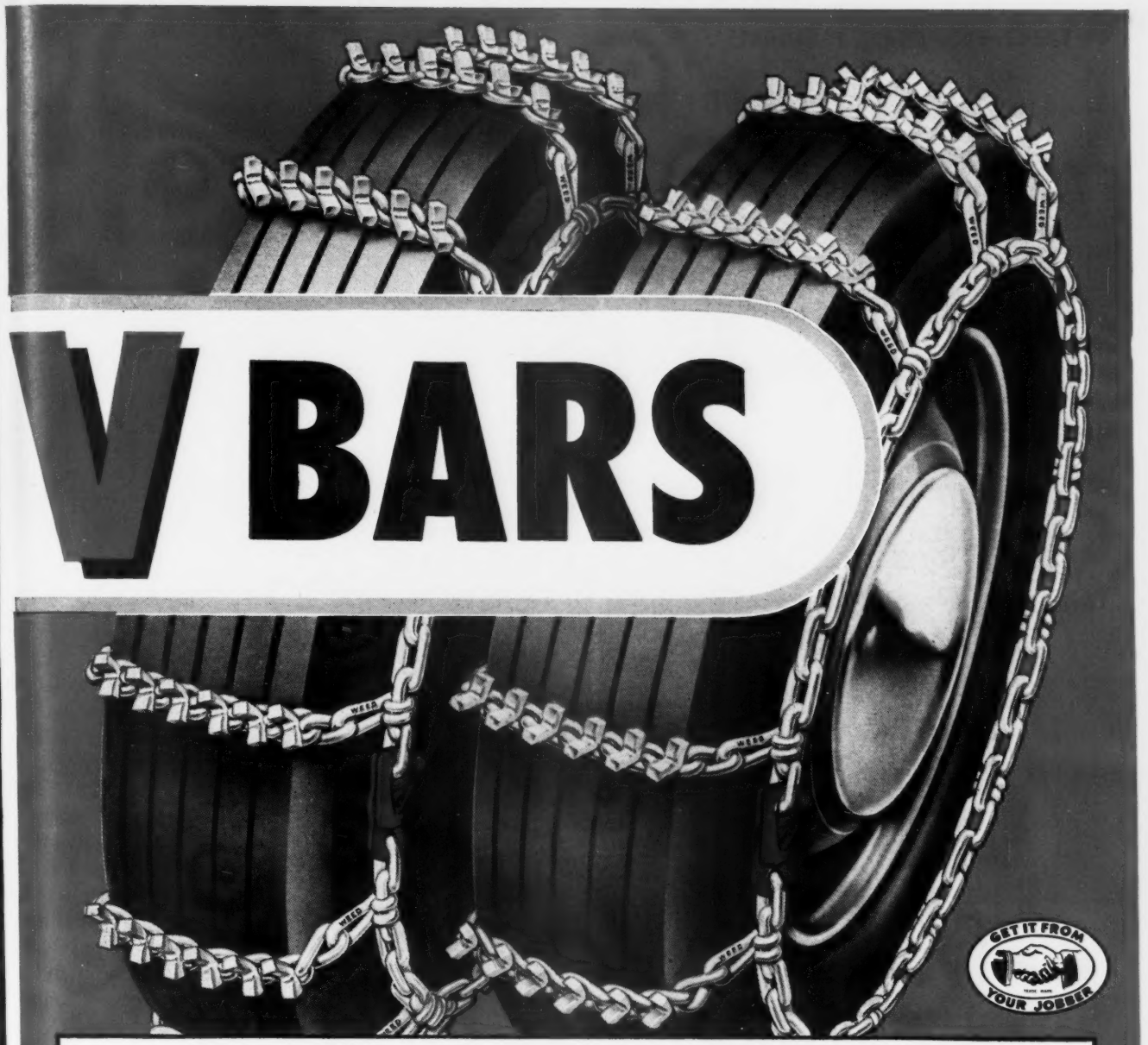
ACCO

TRADE MARK

*In Business for Your Safety*

**WEED TIRE CHAINS • 1904–1954**

***Intentionally Better for 50 Years!***




## READ WHAT THESE WEED DEALERS SAY:

**Massachusetts** • "I display bags of Weed V-Bars and Weed Regulars and I put up the Weed display material. Then I mention chains along with anti-freeze. They're both necessary. It's easy to sell Weed V-Bars because they have so many good talking points, like those 288 gripping points, and they more than double the wear."

**Arthur R. Brewster**
224 Dwight Street, Springfield, Mass.

**Pennsylvania** • "It's easy to sell Weed V-Bars or Weed Regulars. Everybody knows them and by getting my display out well before the bad weather, I have most of my regular customers taken care of. Then I re-order from my jobber to take care of customers who buy at the last minute. I make money selling Weed Chains."

**Frank B. Stewart**
Stewart Service Station, Connellsville, Pa.

**Michigan** • "Don't tell me you can't sell tire chains before snow comes. Our customers know winter's coming, and they know that Weed name, too. We cash in on both angles."

**Stephen Jann**
703 Coplin Street, Detroit, Michigan

**Connecticut** • "One good snow-storm can produce a full year's profit on our tire chain inventory. That's why we're checking our stock early—and ordering from our Weed jobber early, too!"

**Clifton E. Sweeney**
Forest Garage, Inc., Hartford, Conn.

# Window Regulators . . Continued from Page 57

### Electrical Trouble Shooting

The following procedures assume that the battery is fully charged and that the window regulator electrical system is in good working order.

**All windows do not operate.** If none of the windows work, the trouble is probably caused by an inoperative safety relay (on Ford cars). Turn the ignition key to the accessory position and at the same time listen for the relay to click. Note: The relay is mounted on the dash panel of the engine compartment. If the relay does not click, check for voltage at the red wire terminal of the relay. Voltage at this point, with the ignition key at the accessory position and the relay not operating, indicates a defective relay which should be replaced.

If the relay clicks make the following checks: Check the condition of the wiring and connections from the battery terminal of the starter relay to the safety relay and from the safety relay to the bus bar on the window regulator circuit breaker assembly. Repair when necessary.

One window does not operate. If any one unit does not operate, turn the ignition switch to the accessory position and check the voltage at the applicable circuit breaker terminal for the window in question. No voltage at this point indicates a defective circuit breaker.

If voltage is available at the circuit breaker, check for voltage at the number 3 terminal of the motor relay assembly. No voltage at this point indicates a defective wire between the relay assembly and the circuit breaker. Repair or replace the wire.

**(a) Switch Test.** If voltage is available at the number 3 terminal of the relay, successively short the number 1 and number 2 relay terminals to ground with a clip lead. If the window now operates, the wires from the relay to the operating switches, or the switches themselves, are defective. Repair and replace where necessary.

**(b) Relay and Motor Test.** If the windows still do not operate, listen for the relays to click when the number 1 and 2 terminals are shorted to the ground. If the relays do not click, the relay assembly is defective. Replace the assembly. If the relays click, check for voltage at the number 4, 5 and 6 terminals while the number 1 and 2 terminals are shorted to the ground. If voltage is not available at all three terminals, the relay assembly is defective. Replace the assembly.

If voltage is available at terminals 4, 5 and 6, with terminals 1 and 2 grounded, remove the clip leads from the number 1 and 2 terminals. If the window does not operate now, check for continuity (with dwell meter) be-

(*Continued on page* 126)

**Why professionals choose this gun for refinishing**

Every year, more and more refinishers choose the Model 18 over other guns in the line and over other makes . . . and for very good reasons.

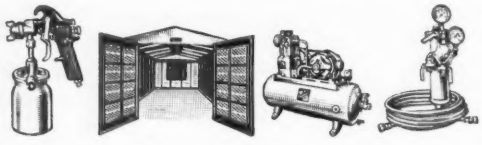
Binks Model 18 uses air more efficiently . . . its pressure drop is less than half that of other guns . . . provides finer atomization of the paint. Model 18 can take it . . . the forged gun body stands up under shop handling. And, most important of all, the Model 18 assures *professional* finishes because it's the finest gun we've made in our entire 25 years of supplying leading auto makers with spray painting equipment.

Take a look at this professional favorite on your next trip to your jobber. Compare it with others and see the great difference for yourself.

**ask your jobber**

**for full information about Model 18** or write us for Binks Catalog 101. It describes the Model 18 and other Binks equipment for professional refinishing. Address: Binks Manufacturing Company, 3124-34 West Carroll Ave., Chicago 12, Ill.

**Binks**
*EVERYTHING FOR SPRAY PAINTING*



GUNS • SPRAY BOOTHS • MATERIAL TANKS • EXTRACTORS & ACCESSORIES

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

# One step can get you in on a ground-floor opportunity

**This is the time for action.**

Just one decisive step can lead you to a ground-floor business opportunity as a dealer with the Hudson Motors Division of American Motors Corporation. A few of these opportunities are still available in some very choice areas.

Hudson dealers, both new and old, will share in the growth and prosperity of the entire American Motors family, with its strong divisions and companies throughout the world. They will benefit from its aggressive leadership.

Already, nine new and separate developments in merchandising, planning and factory relations have put Hudson dealers in one of the strongest competitive positions in their history. And that's just the first step in long-range planning to make the Hudson dealer franchise one of the most valuable in the business.

How about you taking the step today that could put you in on a ground-floor opportunity as a Hudson dealer?

**Write, wire or phone:** C. A. J. Hadley, Sales Manager, Hudson Motors Division, American Motors Corporation, Detroit 32, Michigan. Your inquiry will receive immediate action.

## HUDSON MOTORS

AMERICAN MOTORS CORPORATION

DIVISION OF AMERICAN MOTORS CORPORATION

# Window Regulators . . Continued from Page 124

tween terminal 5 and ground and terminal 6 and ground. If terminals 5 and 6 are not grounded (100% dwell) the relay assembly or the assembly ground wire is defective. Repair or replace where necessary. If terminals 5 and 6 are grounded (relays not operating), the motor or its connecting wiring is defective. Repair or replace where necessary.

**Window operates in one direction only.** Check both the window switch and the driver's control switch. If one switch will operate the unit in both directions and the other will not, repair or replace the connecting wires or switch, whichever applies, of the non-operating switch. If both the window switch and the driver's control switch will operate the window in only one direction, proceed as previously directed under, (a) Switch Test. If the trouble is not found by this test, proceed as previously directed under, (b) Relay and Motor Test.

**Window operates sluggishly.** Sluggish operation of a window may be caused by any or all of the following items: (a) Binding Window Regulator. Operate the window by turning the motor drive shaft by hand (type B unit only). The mechanism should operate without difficulty. If it does not, find the reason for the bind, then make the proper adjustments to relieve the bind. On the type A unit, the motor drive shaft is enclosed and the unit cannot be operated by hand. Visually inspect the regulator for any mechanical malfunction and correct if necessary.

(b) Broken Wires or Loose Connections. Inspect all wiring for breaks and repair or replace any defective wires. Make certain that all connections are tight and there is no paint under the wire terminals where they attach to the car body.

(c) Worn Motor Brushes. Remove the motor and check the no-load current draw. Remove only the motor ground lead, and place the ammeter in series with the lead and ground. Operate the window switch and observe the

(*Continued on page* 128)

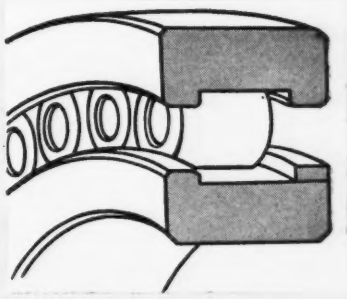
**"But ma'dam, when I said I'd have to install a new hose clamp I didn't mean—oh—uh—!"**

# BOWER

## The Double Lip means EXTRA STRENGTH

Bower design means built-in ruggedness, with positive roll retention, reduced noise, less wear. Fine tolerances mean easy installation and long, trouble-free service life. Bower manufacturing *Quality* is brought to you by dependable Federal-Mogul *Service!*

*Ask Your Federal-Mogul Jobber*



**The Bower double-lip design keeps rollers aligned and adds *strength!* Bower bearings absorb the occasional thrust loads that cause failure of ordinary roller bearings.**

BEARING FEDERAL Mogul SERVICE

**FEDERAL-MOGUL SERVICE**

(Division of Federal-Mogul Corporation)
DETROIT 13, MICHIGAN

**Also: Famous Spher-O-Honed tapered roller bearings; journal roller assemblies.**

current. With no load the current draw should be approximately 15 to 20 amperes at 6 volts. Worn or dirty brushes are indicated by low current.

**Removal of Front Door Regulator Mechanism—Type A**

The electrical front door window regulator mechanism (type A) consists of a window regulator assembly, an arm and plate assembly, a motor and bracket support assembly, a relay, a coupling and a pinion and shield assembly. All these assemblies are serviced as separate assemblies.

**Replacement of Arm and Plate Assembly—Type A.** Remove the arm rest and door handle. Remove the inside lock button and garnish moulding. Loosen the metal screws which attach the trim panel to the inner door with the glass in the down position, disconnect the ground cable from the battery, pull the top trim panel away from the door and disconnect the control switch, remove the control switch from the trim panel and remove the panel.

Remove the arms from the rollers, raise the window glass manually, wrap several strips of adhesive material over the top of the door and stick the ends to each side of the glass. Remove the three cap screws that secure the arm and plate assembly to the inner door.

Slide the arm and plate assembly toward the regulator to release the roller from the guide on the inner door panel. Lower the assembly and remove it through the door access hole. Before installing the arm and plate assembly lubricate the rollers and all pivot points.

If the rollers were disassembled, first assemble them in the glass channel and raise the arm and plate assembly into the door before locating the three retaining screw holes. Start the upper roller into the roller guide. Install the three retaining screws but do not tighten the mat this time. Connect the regulator link to the arm and plate assembly and install the retaining key. Adjust the arm and plate assembly and install the door trim panel and hardware.

**Replacement of the Window Regulator Assembly—Type A.** Remove the hardware, garnish moulding, and trim panel. Remove the four cap screws that secure the regulator assembly to the inner door panel and remove the key that attaches the arm and plate to the regulator. Lower the assembly and remove it through the door access hole of the inner door. Remove the cover plate with the relay attached and disconnect the wires from the motor to the relay.

To install, raise the regulator assembly into position in the door panel. Install the retaining screws

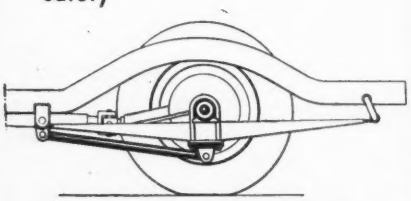
(*Continued on page* 130)

WITHIN YOUR GRASP

"TRACTION MASTER"

FEATURES

- Eliminates drive-line snap
- Stops car over 40% quicker
- Prevents forward weight transfer in quick stops
- Stabilizes car if blowout occurs
- Stabilizes car on rough roads
- 50% more traction on wet or snowy roads
- Increases brake lining life up to 50%
- Increases spring life
- Increases tire mileage up to 33%
- Increases U-joint, axle and drive-line life
- Increases shock absorber life
- Gives the ultimate in driving safety



Nationally Accepted, Used & Praised by Police Depts., Fleet Owners, State Highway Patrols, Sports Car Enthusiasts, Salesmen. Bill Vukovich, '53-'54 winner at Indianapolis says it's "The Greatest Safety device ever offered the motoring public."

Sales supported by power packed advertising in SATURDAY EVENING POST, MOTOR TREND, CAR LIFE, MOTOR AGE, JOBBER TOPICS, TRAILER DEALER, FORD DEALER NEWS, POPULAR MECHANICS, HUNTING ANNUAL (Sports Afield), GASOLINE NEWS and daily newspapers.

Don't miss this opportunity for profits on this new product. Write today for full information.

AUTOMOTIVE CAR LIFE SEAL OF MERIT — TESTED ENGINEERING SUPERIORITY — SAFETY EFFICIENCY PERFORMANCE

*"Safety Through Engineering"*

**AUTO MASTER CORP.** Dept. MA, 165 ELEVENTH STREET, SAN FRANCISCO 3, CALIF.

# NOW . . . You Can INCREASE

## THIS MAN'S BODY REPAIR PRODUCTION!

— with the amazing *NEW*, time-saving

## P-F SPEED Midget

DESIGNED by Bodymen
PREFERRED by Bodymen

## BODY REPAIR EQUIPMENT

"P-F" BODY REPAIR EQUIPMENT has always been *first* in the number of jobs it does better and faster — at lower cost for tools and labor! NOW — with the super-versatile "P-F" SPEED MIDGET, with the exclusive EZ-E-ON Attachments — it steps out way ahead of all competition . . . by cutting hook-up time 70%; and so increasing your profit potential. No more slow, costly, time-consuming "screw-on" methods — just twist connections together and *go to work*. Want proof? See free demonstration offer, below.

with the

EXCLUSIVE

## EZ-E-ON

"No-Thread"

ATTACHMENTS

You can make a dozen attachment connections as quickly as one slow "threaded" connection — when you're working with P-F SPEED MIDGET UNIT with the exclusive time-and-dollar-saving EZ-E-ON attachments. Just TWIST the pieces together, and your hook-up is ready to go for FAST, PROFITABLE BODY REPAIR.

**NO SLOW "SCREW-ON" OPERATIONS!**

"P-F" SPEED MIDGET UNIT powered with the famous P-F 3 TON Hydraulic JACK — *Low* IN COST — *High* IN PROFIT-BUILDING PRODUCTION!

*Write!*

**FOR FREE DEMONSTRATION!**

Right in your shop, we'll show the way to BIGGER PRODUCTION AND PROFITS — by letting YOU stack the SPEED MIDGET against any "threaded" equipment! No obligation. Contact your jobber or write direct.

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Automotive Division of
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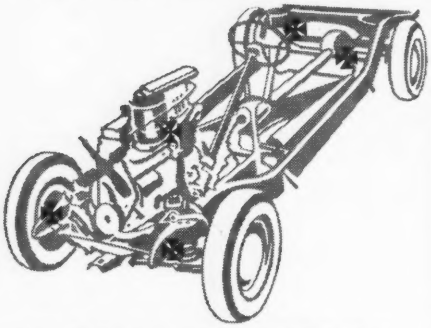
Look at all the places you can use instant lighting

BERNZ O MATIC®

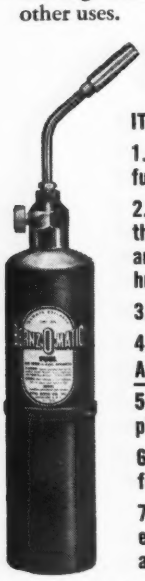
TORCHES

with disposable fuel cylinders!



- loosening mufflers and tail pipes
- freeing frozen bolts and nuts
- loosening king pins
- loosening springs
- ignition repairs

These are only a few of the places where you can use the BERNZ-O-MATIC Torch. It is also excellent for radiator repairs, battery repairs, burning paint, melting lead and babbit and many other uses.



Best of All

IT'S SO EASY TO USE:

1. Weighs less than three pounds fully loaded.
2. Has disposable fuel cylinder that can be removed at any time, and contains enough fuel for 15 hrs. burning time.
3. Burns with 2300 degrees heat.
4. Is Underwriters' Laboratories Approved.
5. Retails for only $6.95 complete.
6. Replacement cylinders retail for only $1.95 each.
7. Soldering tips, flame spreaders and stands are available as accessories.

New catalog sheet gives details. Send for your copy today. Simply mail the coupon.

OTTO BERNZ CO., INC. MA

280 Lyell Avenue, Rochester, N. Y.

Please send me your new catalog sheet on the BERNZ-O-MATIC Master Torch.

Name.....

Company.....

Address.....

City..... Zone..... State.....

## Window Regulators .

Continued from Page 128

but do not tighten them until final regulator adjustment is made. Connect all wires from the motor to the relay and install the plate with relay attached to the door. Adjust the regulator and install the door trim panel and hardware.

**Replacement of Motor and Bracket Support Assembly—Type A.** Remove the window regulator assembly in the same manner as described previously. Clamp the assembly in a vise and unload the spring. Remove the three screws and lockwashers that hold the motor and bracket support to the regulator assembly. Remove the motor and gasket. Remove the cover and shaft from the motor and bracket support. Remove the coupling, pinion, and shield assembly from the regulator assembly.

To install, assemble the coupling, pinion and shield to the regulator assembly, then position and install the cover and shaft to the motor and support bracket. Position the motor and bracket on the regulator assembly, and install the three attaching screws and lockwashers. Load the regulator clock spring before installing the regulator assembly.

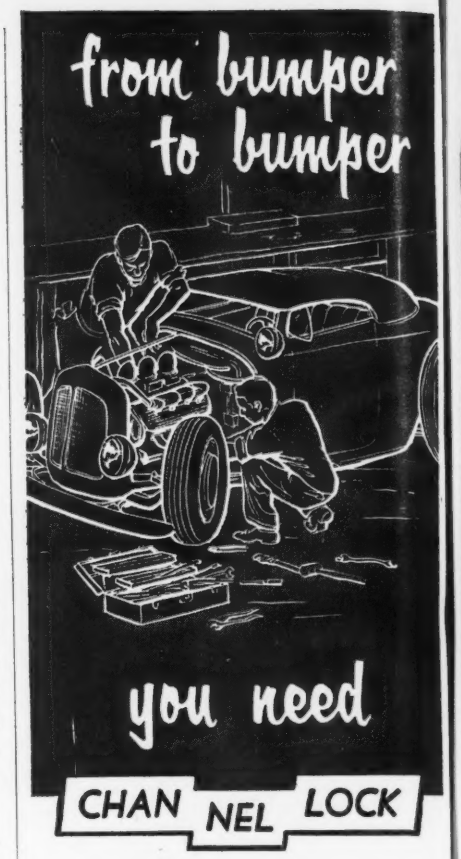
### Removal of the Front Door Mechanism—Type B

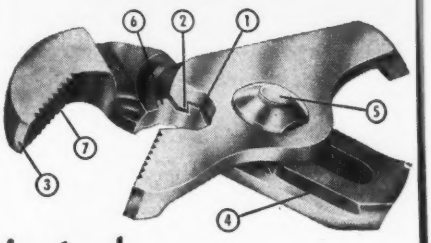
The electrical door window regulating mechanism (type B) is composed of a window regulator assembly, motor assembly, drive coupling and a drive assembly.

**Replacement of window regulator assembly—type B.** Remove the hardware, garnish moulding, and trim panel in the manner recommended for type A. Remove the four cap screws that hold the window regulator to the inner door panel. Lower the assembly and remove it through the inner door access door. Remove the cover plate with the relay attached and disconnect the wires from the motor to the relay.

To install the regulator assembly follow the procedure given for type A.

(*Continued on page* 132)




here's why

**1.** Interlocking principle prevents slipping under any load. **2.** New type wide base lugs cannot shear. **3.** New nose design for gripping small objects. **4.** Patented design of tension edge eliminates stress concentration at channels. **5.** Interlocking design minimizes stress on joint bolt. **6.** Precision machined interlocking surfaces result in perfect fit, distributing pressure evenly. **7.** "Rite Angle" teeth guarantee maximum bite and minimum wear.

Look for the Channellock line when you're shopping for hand tools. Channellock pliers offer features that you can't get with other makes. And when you buy a Channellock plier, ask to see the full line—you'll find a style and model to do any job better.

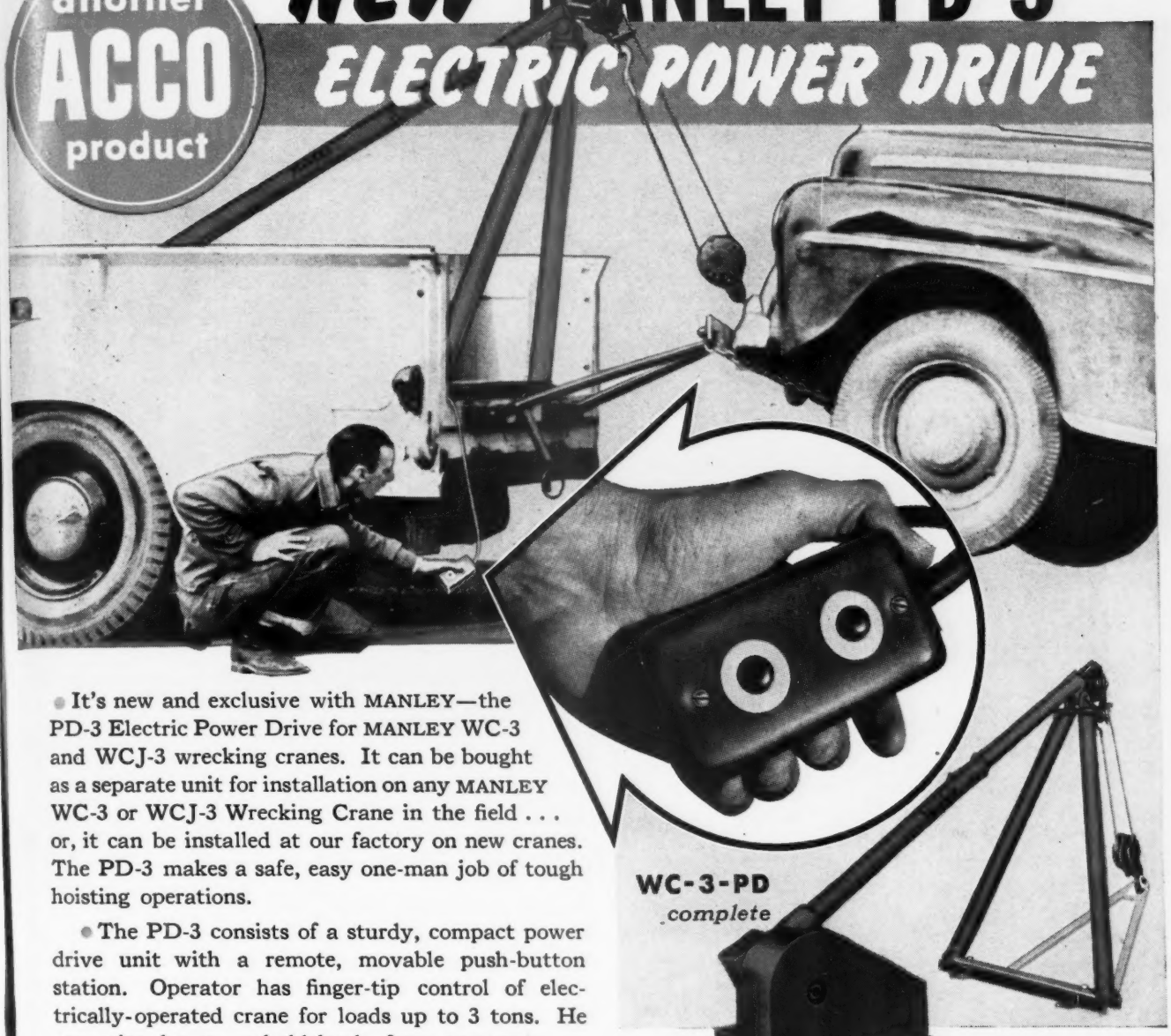
CHAN NEL LOCK

THE PLIER DESIGN THAT OBSOLETES ALL OTHERS

CHAMPION DeARMENT TOOL CO. • MEADVILLE, PA.

# NEW MANLEY PD-3 ELECTRIC POWER DRIVE

another ACCO product



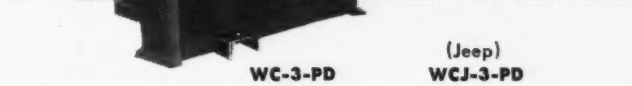
• It's new and exclusive with MANLEY—the PD-3 Electric Power Drive for MANLEY WC-3 and WCJ-3 wrecking cranes. It can be bought as a separate unit for installation on any MANLEY WC-3 or WCJ-3 Wrecking Crane in the field . . . or, it can be installed at our factory on new cranes. The PD-3 makes a safe, easy one-man job of tough hoisting operations.

• The PD-3 consists of a sturdy, compact power drive unit with a remote, movable push-button station. Operator has finger-tip control of electrically-operated crane for loads up to 3 tons. He can raise, lower, or hold load—from any spot.

• No power take-off required. ¾ horsepower electric motor is powered by truck's 6-volt battery. Crane switch is wired in series with ignition switch to keep motor drive "dead" except when operated by authorized personnel.

• Power drive unit is completely enclosed. All gears run in oil, assuring quiet operation and maximum service life. Entire assembly takes little room. Crane can be folded back to give more hauling space.

• The MANLEY WC-3-PD complete Wrecking Crane with Electric Power Drive mounts on any open truck. It's a money-maker because it saves time and labor on every wrecking job. Send coupon today for additional information.



**WC-3-PD** *complete*

| | WC-3-PD | (Jeep) WCJ-3-PD |
|---|---|---|
| Width | 37" | 31" |
| Length | 80⅛" | 49" |
| Height | 54" | 44" |
| Weight | 352 lbs. | 364 lbs. |
| Clearance, floor space | 37" wide x 62" long | 31" wide x 35" long |
| Cable length | 35' | 35' |

**MAIL TODAY**

**MANLEY DIVISION,**
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Please send Bulletin **DH-397** on NEW MANLEY PD-3 Electric Power Drive for WC-3 and WCJ-3 Wrecking Cranes.

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*The Best Equipped Shop Gets the Profitable Business*

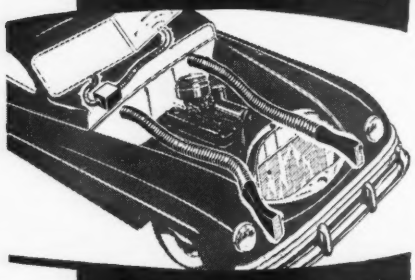
You can SELL MORE

WIREMOLD Air Duct and Defroster Hose for replacements

because

WIREMOLD is original equipment on America's leading automobiles!

This rugged, sturdy duct is best for replacements — and it's a good profit maker for you, too. You'll like working with it — you can bend it double without kinks, and you'll always get a tight, snug fit!



- Fits every make and model
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This Display will SELL AIR DUCT for you!

Order this WIREMOLD AIR DUCT & DEFROSTER HOSE DISPLAY PACKAGE today! Contains one 6-foot length of each of the 6 most popular sizes. Attractive 2-color Display is FREE!

The WIREMOLD Company
HARTFORD 10, CONNECTICUT

## Window Regulators .

Continued from Page 130

**Replacement of Motor Assembly and Coupling.** Remove the hardware, garnish moulding, glass and trim panel in the manner described for type A. Remove the two attaching nuts and washers which hold the motor to the window regulator assembly as shown in figure 3. Remove the motor and rubber drive coupling through the door access hole. Remove the cover plate, with relay attached, and disconnect all motor-to-relay wires.

To install the motor assembly and coupling, attach the rubber coupling to the motor drive shaft and insert the motor and coupling through the door access hole. Slide the rubber coupling over the drive assembly pinion. Line up the motor attaching bolts to the window regulator assembly and install and tighten the motor retaining nuts.

Attach all electric connections and secure the plate with relay attached. Install the access hole cover and reconnect the door control switch. Install the trim panel, garnish moulding and hardware.

**Replacement of the drive assembly.** Remove the hardware, garnish moulding, glass and trim panel in the manner described for type A. Remove the three cap screws that hold the window regulator assembly to the inner door

(*Continued on page* 135)

**"I got an oil display in there— and no display ever drew more attention."**

SURE BEATS DRAWERS FOR STORING TOOLS!

...and doubles the capacity, too!

NEW HUOT TULDEX

The TULDEX is an entirely new idea for protecting and locating tools. It was designed particularly for the master mechanic who appreciates and wants the best of care and protection for his equipment. Saves those many hours that are lost hunting for a misplaced tool.

Six tool holding panels, 12" x 20", are made of tempered, perforated hardboard and move on separate tracks with geared, self-lubricating nylon bearings. Doors swing completely out of the way when open. Panels and doors together have more than 24 square feet of tool storage area—twice as much as most tool chests! Top and bottom locks are built-in.

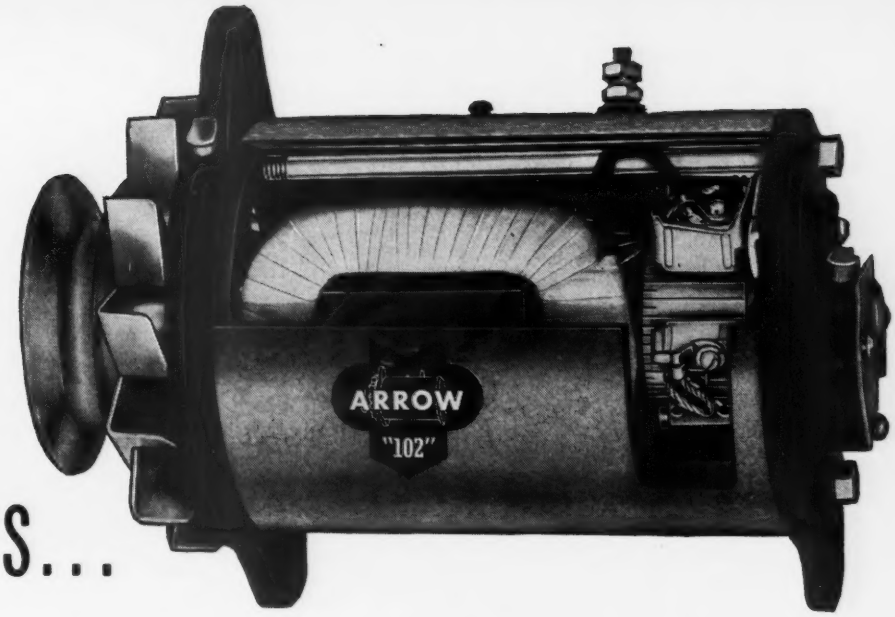
The cabinet of heavy steel is finished in attractive blue and grey baked enamel and is grease proof. The big drawer is just right for power tools or bulky items. You can place the Tuldex on a bench, hang it on a wall or mount it on top of a portable Huot Porta-Cab. Overall size: 29" x 26" x 13¾".

**Ask your jobber, or write for bulletin.**

*Made by America's leading manufacturer of "Modern tool storage systems for modern tools."*

HUOT
HUOT MANUFACTURING CO.
585 No. Wheeler St., St. Paul 4, Minn.

# the finest replacements...




# ARROW REBUILT GENERATORS

**Completely rebuilt** under strict quality control . . . every unit leaves our plant in perfect operating condition, electrically and mechanically.

**More carefully assembled** than the parts they replace . . . painstaking hand work by employees who can be trusted to do their best work.

**Exactly the right generator** for every popular car, light truck and tractor, including late models . . . no mongrels or makeshifts . . . exactly the same kind of replacement as supplied by the original manufacturer.

**24-hour "rush" Rebuilding Service** of generators, starters and armatures for trucks, buses and heavy equipment . . . available through your Arrow Jobber (or where no Arrow jobber is handy send them to us . . . we will give you "emergency" service at regular cost.)

**Your profits protected** . . . Arrow's prices are right, no more than for ordinary rebuilt generators . . . you get your full profit margin and Arrow GUARANTEES every unit for a *full* year.

ARROW "102"

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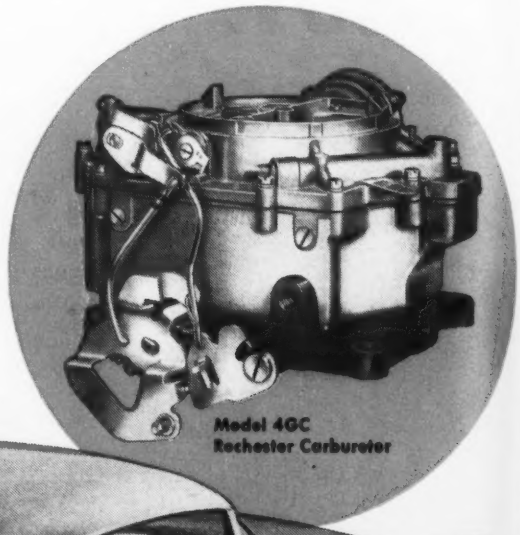
# in the class of the *Cutlass* ...the famous 4-JET ROCHESTER® CARBURETOR

Under the hood of the sensational *Cutlass* . . . Oldsmobile's experimental "dreamline" sports coupe . . . is the most powerful "Rocket" engine ever built. To help deliver its flashing power, Oldsmobile chose the famous 4-Jet Rochester Carburetor—ready *today,* yet in the class of the *Cutlass* because it was engineered for *tomorrow.* Look for Rochester Carburetors on more and more of America's leading cars!



Model 4GC Rochester Carburetor

OLDSMOBILE *Cutlass* with 250-hp advanced "Rocket" engine and 9-to-1 compression ratio.

ROCHESTER CARBURETORS

**ROCHESTER PRODUCTS** *DIVISION OF GENERAL MOTORS*

ROCHESTER, N. Y., U. S. A.

ALSO MANUFACTURERS OF ROCHESTER CIGAR LIGHTERS AND GM STEEL TUBING

# Window Regulators . . Continued from Page 132

panel as shown in figure 4. Take the regulator through the door access hole. Remove the cover plate with the relay attached, and disconnect the wires from the motor to the relay. Clamp the window regulator assembly in a vise, and unload the spring. Remove the three cap screws and lockwashers holding the drive assembly to the window regulator.

To install the drive assembly, position the drive assembly on the window regulator, and slide the drive pinion into the rubber coupling. Install the three cap screws and lockwashers that hold the drive assembly to the window regulator. To install the regulator assembly follow the installation instructions as in type A.

### Removal of the Rear Door Window Regulator Mechanism —Type A

Remove the hardware, garnish moulding, and trim panel in the manner described for front door mechanism type A. Remove the six cap screws that secure the window regulator to the door panel. Remove the bracket and lower the assembly through the door access hole. Disconnect the wires from the motor to the relay and clamp the regulator in a vise to unload the spring. Take out the three screws and lockwashers holding the motor and bracket support to the regulator assembly and remove the motor and gasket, then remove the coupling, pinion, and shield assembly from the regulator assembly.

### Removal of the Rear Door Window Regulator Mechanism —Type B

Remove the hardware, garnish moulding, and trim panel as recommended for type A. Remove the four cap screws that secure the window regulator to the door

(*Continued on page* 152)

VIXEN
files are tough

Made of special analysis alloy, Vixen's milled curved teeth have the stuff to cut equally deep and fast into auto body steel or welding beads. On softer metals and fibrous materials, large gullets give Vixen a self-clearing action. This prevents both clogging and surface scratches. Vixen cuts freer, faster, smoother. Vixen, the original milled curved tooth file, is still the best.

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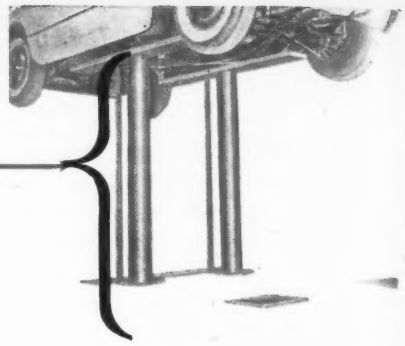
# GLOBE HOISTS

## add the *profit dimension* to modern motor servicing



GLOBE HOISTS give floor space the third dimension of *elevation* . . . raising the car up off the floor for easier, faster and more profitable motor service.

### GLOBE *"Frame-Kontact"*® HOIST

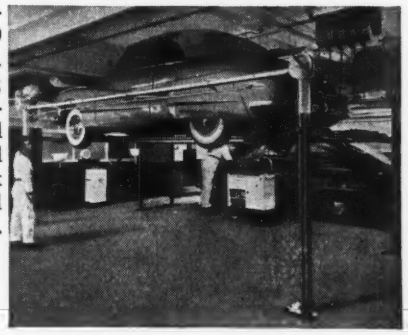
This revolutionary, Globe-pioneered Hoist raises the car by its frame for easier handling, greater accessibility, and improved lubrication technique. Both single and 2-post types are available.

Handles all passenger cars. 8,000 lbs. capacity. Easy to install. Flat contact members provide maximum bearing surface contact to car frame. "Frame-Kontact" Hoists are manufactured under the following Globe-owned patents: 2654443 2612355 2612344 2593635 2593630 2458986.

### GLOBE *4-Post Electric* HOIST

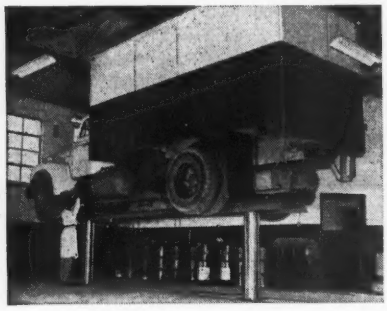
The ideal Hoist selection for temporary or upper floor locations, or wherever ground excavation is impractical. Can be moved easily . . . installed anywhere.

Roll-on or free-wheel types. 7,500 lbs. capacity. Clear floor space; no center obstructions. Free-wheel types are supplied with axle block supports and drive-over ramps.



### GLOBE *Heavy Duty* TRUCK HOIST

Globe type CR, 2-post connecting rail, illustrated, is typical of Globe's complete line of heavy duty truck Hoists. Capacities to 40,000 lbs.



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### GLOBE *Transmission Dolly*

This sturdy, versatile jack is a must for removing and replacing both regular and automatic transmissions; as well as for other under-car lifting operations. Can be used with any 2-post or "Frame-Kontact" Hoist. Two-stage, hand-operated hydraulic ram has a capacity of 1,000 lbs. Automatic by-pass valve prevents overloading. Roller mounted, this jack can be moved easily across floor. Adapters for handling various types of transmissions available.

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Globe Hoist Company MA-633
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I'd like to know more about Globe Automotive and Truck Hoists.

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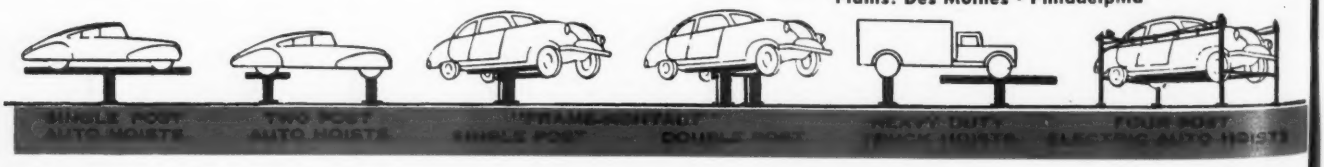
**GLOBE**

THE BEST LIFT

**Globe Hoist Company**
**E. Mermaid Lane at Queen Street, Phila. 18, Pa.**
**Plants: Des Moines • Philadelphia**



5280 dealers agree
with Hollingshead...
it's the

# rollingest, ruggedest, classiest

# SERVICE CENTER

## ever offered!

*And it costs you nothing in the long run!* 5280 dealers snapped it up instantaneously—and well they should. It is the rollingest . . . ruggedest . . . classiest Service Center ever offered, with such exclusive features as giant 8″ rubber wheels for easy rolling. It's big and roomy so you can use it as a display stand inside or out . . . and with your own sign on top, it is advertising at its best—a constant reminder to your customers of your good service. Special Hollingshead merchandising program enables you to own your stand with no out-of-pocket cost in a very short time. When can you get your Hollingshead Service Center? Check your supplier's salesman now. There's one waiting for you.

### CHECK THESE EXCLUSIVE FEATURES

- **Giant Rubber Tire 8″ Wheels** make stand easy to roll. Will cross 2″ curb without stalling.
- **Free Personalized Identification Sign** fits top of stand with *your name* hand lettered on both sides.
- **Open on Both Sides** with sign and price strip on each side. Use against side of building, in driveway or on island, or inside as showcase.
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*Leader in Maintenance Chemicals*
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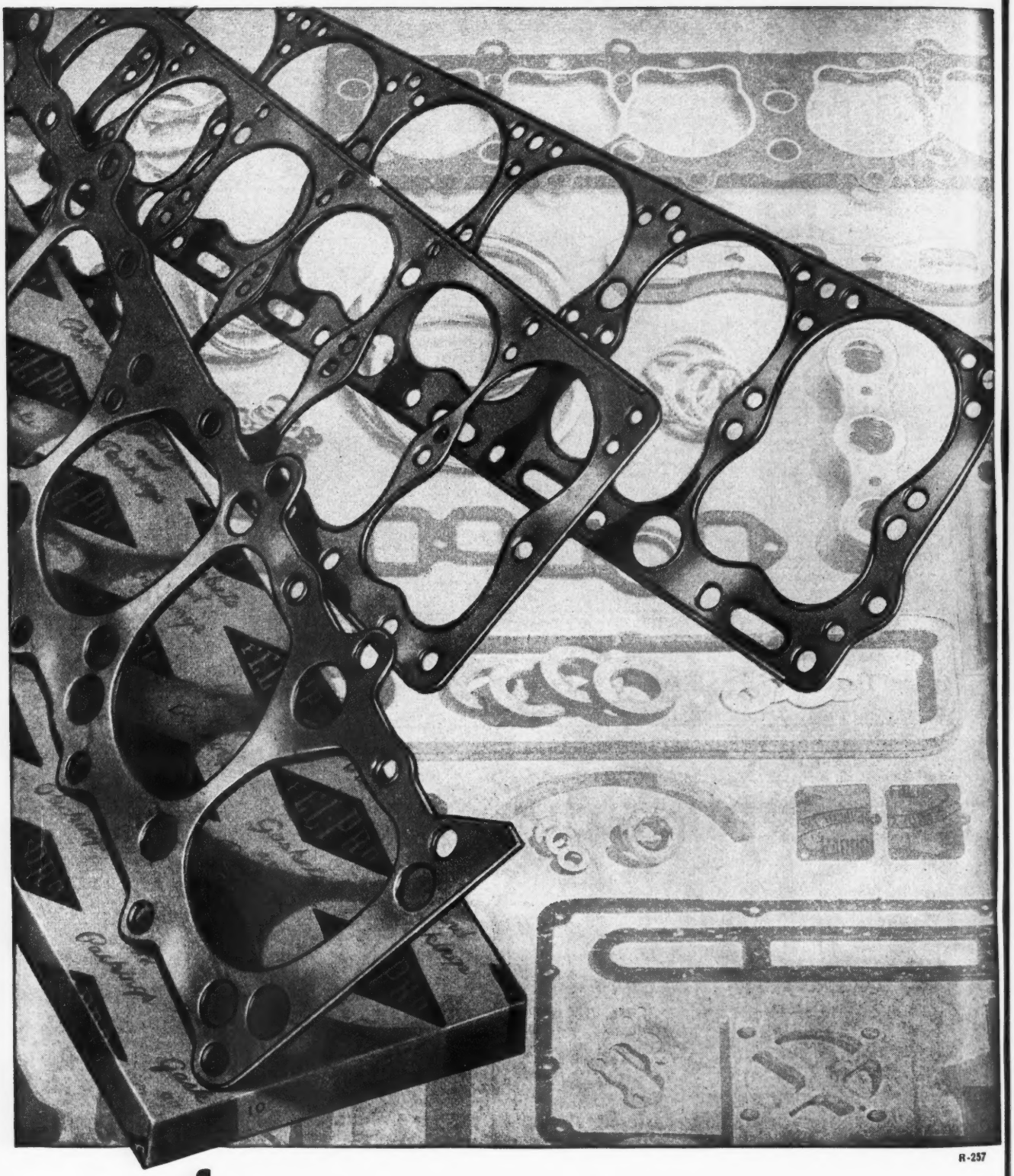

R-257

# fel-pro *copper head gaskets...*

**. . . for maximum compression . . . for superior performance**

It's smart to call for Fel-Pro Head Gaskets—to place your confidence in the same source of supply used by leading car factories and industrial and heavy-duty engine manufacturers. Wherever you are located, your Fel-Pro Jobber can supply the gasket you need right off the shelf. The unique Fel-Pro Stocking Plan enables your Fel-Pro Jobber to scientifically tailor-to-order his stock to meet the specific gasket needs of his community. It saves your Jobber a top-heavy inventory—and means you get prompt, more efficient service. Another of the many reasons why—it pays to call for Fel-Pro!!

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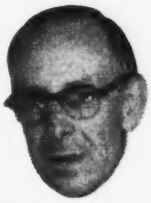
FELT PRODUCTS MFG. CO., 1521 Carroll Ave., Chicago 7, Ill.

# "thanks to CP... we increased our net billings in one department $675. in one week."



says Max E. Toerpe
General Service Manager,
Brogan Cadillac Oldsmobile Co.,
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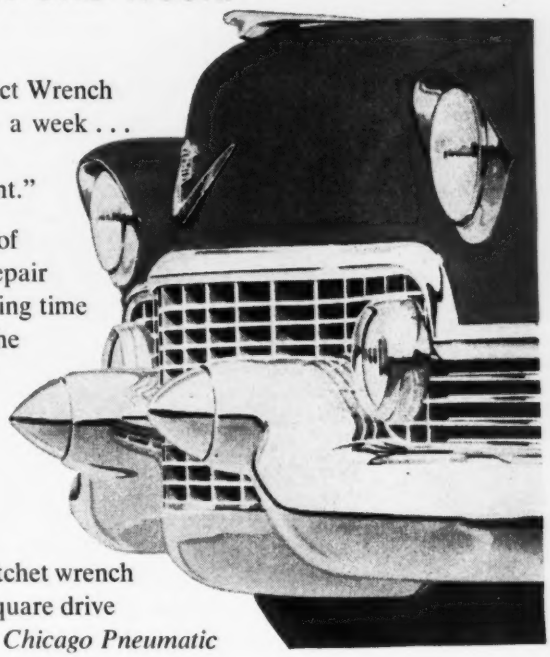
**Owners of 12 CP Air Impact Wrenches.**

"Soon after he started using a CP Air Impact Wrench our undercoater increased his output 60% a week . . . this alone amounted to a weekly increase of $675.00 in net billings in this department."



Testimonials like Mr. Toerpe's are typical of hundreds of cases where car dealers, body repair shops and service stations have cut nut turning time 75% by using CP Controllable Power Air Impact Wrenches. The 11 other wrenches in Mr. Toerpe's shop are contributing similar savings in the repair, and body departments. Here's why: With the Controllable Power feature you can run nuts and screws to predetermined uniform tightness yet have plenty of extra power for those tough, rusted nuts.

Easy to handle CP Air Impact Wrenches are furnished with attachable angle heads for ratchet wrench spots. Available in ½", ¾" and 1" square drive capacities. For more information write *Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, N. Y.*

# Chicago Pneumatic

AIR AND ELECTRIC IMPACT WRENCHES • PNEU-DRAULIC TRUCK JACKS AND PUMPS • ZIP-GUNS • BEAD BREAKERS

reprinted from

# POPULAR MECHANICS

August 1954

## Which of these brake linings is safe?

**YOU COULDN'T TELL TO SAVE YOUR LIFE UNLESS YOU KNEW THE NAME!**

One of the brake linings pictured above may be a dangerous, inferior lining, which might suddenly fail—just at the moment when you need it most. The other is a *safe* lining.

Your life could depend on choosing the *safe* lining. *But neither carries a name or trade-mark where you can see it.* You couldn't tell which is which, could you? So you'd be just plain lucky if you made the right choice!

But here's something to be glad of—when you buy dependable GRIZZLY Brake Linings, you don't *have* to trust your luck. We at Grizzly want your safety to be as certain as possible. That means we make the safest, most dependable brake linings on the market, but it means something else, too. . . .

**when you buy GRIZZLY the famous name, Grizzly bear and grade are stamped on the outer side of the lining, where you can see them**

The Grizzly Authorized Brake Shoe Exchanges are provided with special branding stamps which not only show that you are getting famous, reliable GRIZZLY linings, but also show whether you are getting Grizzly *Syncro*, our excellent lining engineered for regular duty, or our special *Silvertip* lining for extra rugged high-mileage, multi-stop service.

When your brake serviceman gets his relined shoes from a GRIZZLY Authorized Brake Shoe Exchange, both you and he can take one look and know that you are getting the consistent performance and long, *safe*, service you need. The GRIZZLY reputation is known everywhere: more than forty years of making and selling *the best brake service products available.*

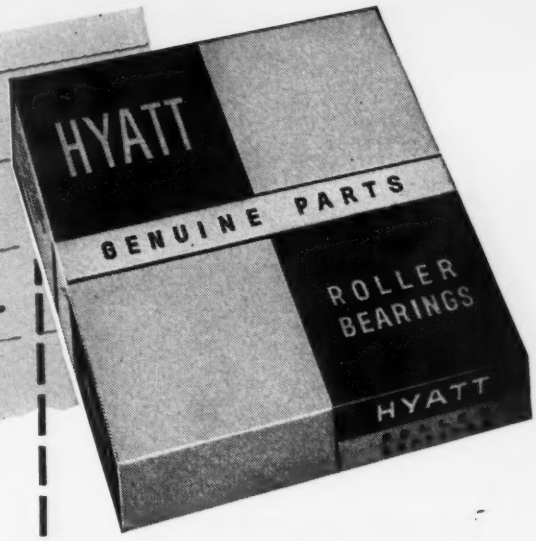
**BUY GRIZZLY BRANDED BRAKE LINING—KNOW THE SAFETY YOU ARE GETTING**

Grizzly Manufacturing Division, Paulding, Ohio

**GRIZZLY**
REG. U. S. PAT. OFF.
**BRAKE LINING**

MEMO

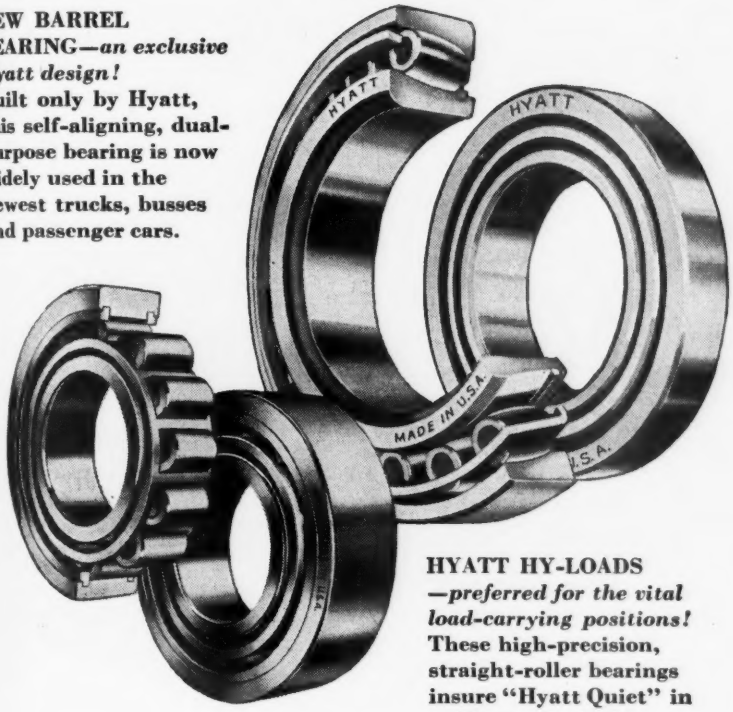
*Be sure your replacement bearings are exact duplicates of those installed at the factory—*

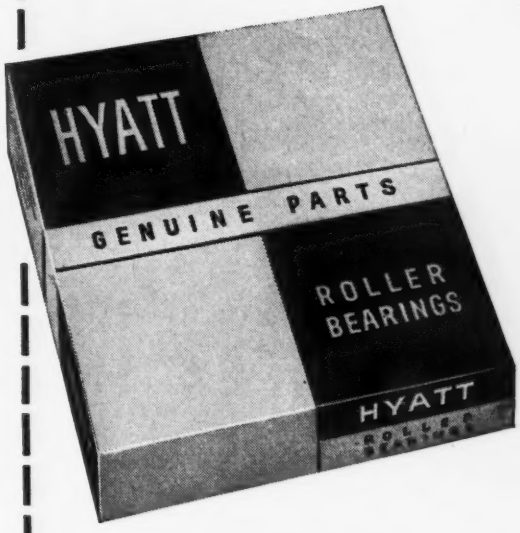



**insist on...**

# GENUINE HYATTS!

**NEW BARREL BEARING—*an exclusive Hyatt design!***
**Built only by Hyatt, this self-aligning, dual-purpose bearing is now widely used in the newest trucks, busses and passenger cars.**

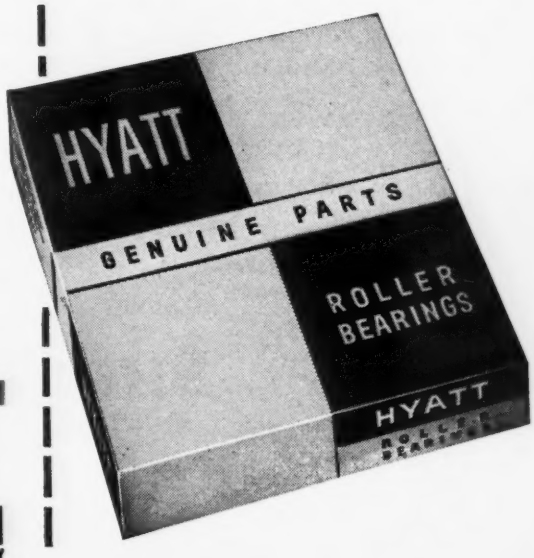



**HYATT HY-LOADS**
***—preferred for the vital load-carrying positions!***
**These high-precision, straight-roller bearings insure "Hyatt Quiet" in millions of vehicles.**

**A GENERAL MOTORS PRODUCT** GM GENERAL MOTORS **A UNITED MOTORS LINE** UNITED SERVICE MOTORS

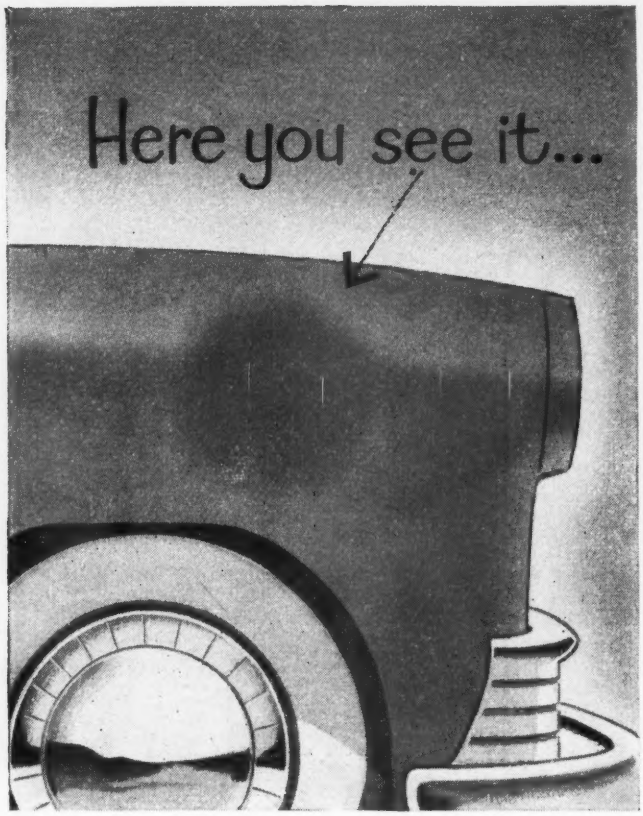
**DISTRIBUTED BY DEALERS EVERYWHERE**

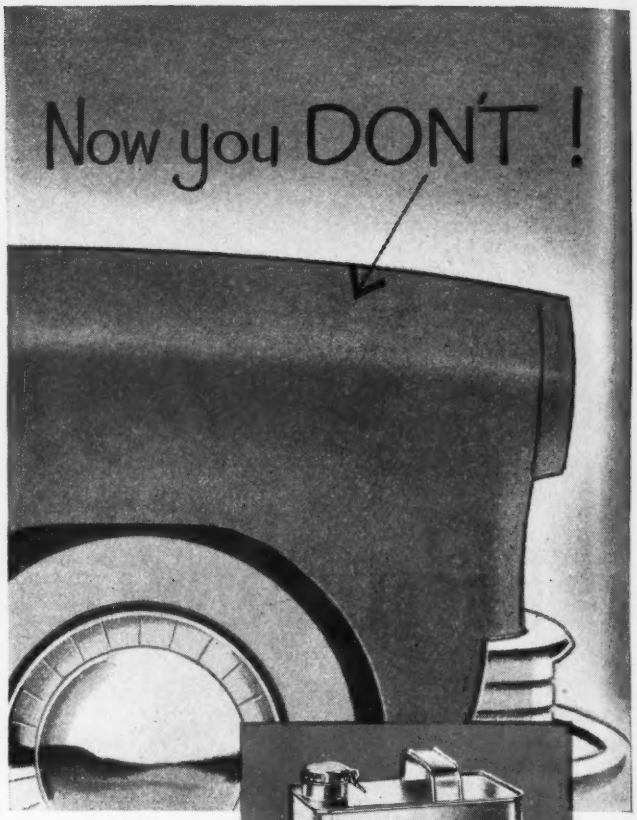



# HYATT

**STRAIGHT BARREL TAPER**

HYATT BEARINGS DIVISION • GENERAL MOTORS CORPORATION • HARRISON, NEW JERSEY



## Spot repairs without "spots"!
## . . . done with
# S-W OPEX® HARMONIZER

Differences in appearance between spot repairs and original finish just disappear when you add OPEX HARMONIZER to the last coat of lacquer!

OPEX HARMONIZER employs well-known optical principles as applied to color to blend new lacquer with old enamel visually as well as physically. By adding transparency to the top-coat, OPEX HARMONIZER aids feather-edging . . . blends any slight differences in tone so imperceptibly that the eye cannot distinguish them.

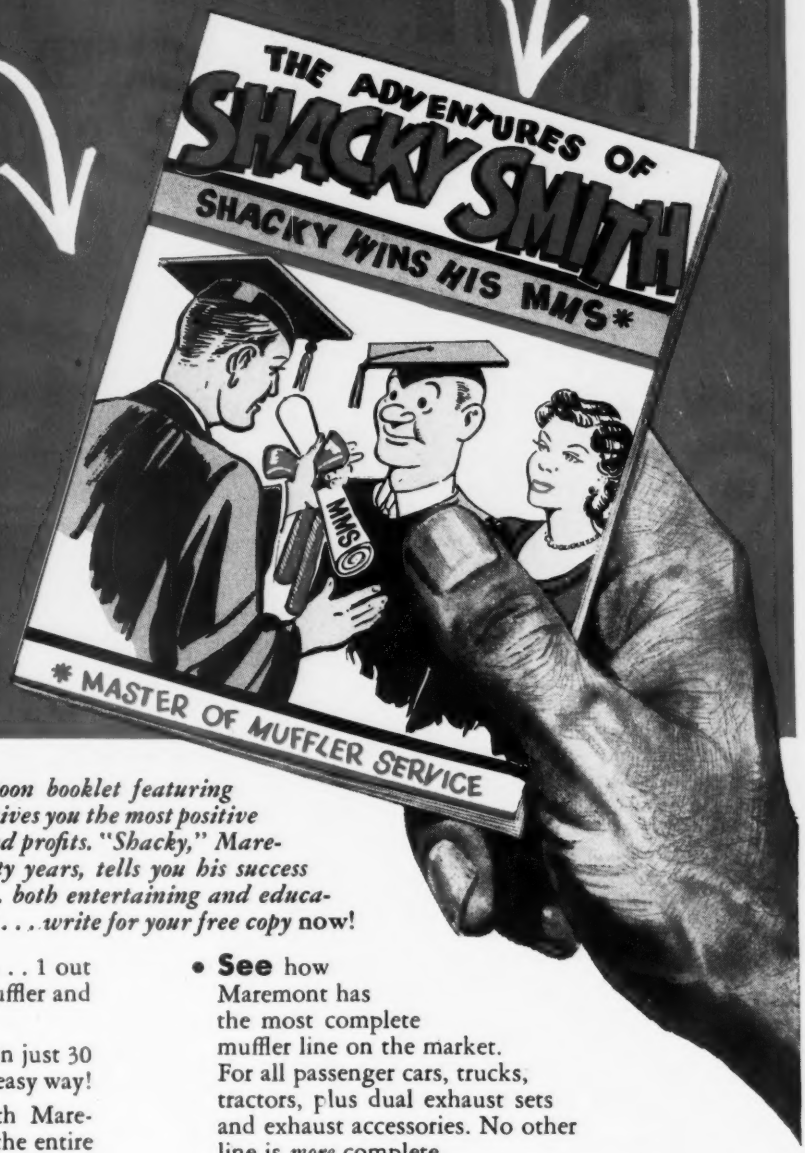
OPEX HARMONIZER gives added gloss and flow, too . . . reduces need for rubbing . . . makes color matching easier, especially on metallics. Try it out today! Call your Sherwin-Williams OK Automotive Jobber, or write: The Sherwin-Williams Co., Automotive Division, Cleveland 1, Ohio.

COVER THE EARTH
SHERWIN WILLIAMS
OPEX
OK
Automotive
FINISHES

**SHERWIN-WILLIAMS**
AUTOMOTIVE FINISHES

GET IT FROM YOUR JOBBER

# THIS should be in your hands




*Maremont's new and colorful cartoon booklet featuring "The Adventures of Shacky Smith" gives you the most positive approach yet to more muffler sales and profits. "Shacky," Maremont's star salesman for over twenty years, tells you his success story . . . in easy-to-read fashion . . . both entertaining and educational. This should be in your hands . . . write for your free copy* now!

- **See** how big the muffler market is . . . 1 out of 3 cars on the road needs a new muffler and tail pipe now!
- **See** how to spot muffler prospects in just 30 seconds. "Shacky" tells you the fast, easy way!
- **See** how you can profit more with Maremont Mufflers. "Shacky" gives you the entire profit story . . . and tells how you can do it, too!
- **See** why Maremont has the right design for every engine . . . a perfect fit every time. Maximum "hush" performance . . . minimum back pressure.
- **See** how Maremont has the most complete muffler line on the market. For all passenger cars, trucks, tractors, plus dual exhaust sets and exhaust accessories. No other line is *more* complete.
- **See** the new Maremont sales promotion aids . . . posters, streamers, pennants, inspection reminder stickers, quality story booklet, etc., whatever you need to best fit the personality of your shop.

THIS should be in your hands, too!

**A STOCK OF MAREMONT MUFFLERS...**
**MAREMONT AND ONLY MAREMONT HAS IT...**
**THE *RIGHT* MUFFLER FOR *EVERY* VEHICLE!**

GET IT FROM YOUR JOBBER

Write for your copy now!

**MAREMONT AUTOMOTIVE PRODUCTS, INC.**
1600 S. Ashland Ave., Chicago 8, Illinois
Attention: Sales-Service Dept. 20

Please send my free copy of "The Adventures of Shacky Smith" that tells me how to make more muffler money!

Name_____
Company_____
Address_____
City_____ Zone____ State_____

# MAREMONT MUFFLERS

The right design . . . for every engine!

MAREMONT AUTOMOTIVE PRODUCTS, INC.
CHICAGO 8, ILLINOIS

MI Motor memo

CARE WILL SAVE YOUR CAR

# SEALED POWER PACKS SALES POWER

Hard-selling advertisements in MECHANIX ILLUSTRATED and other top magazines pre-sell Sealed Power Piston Rings to millions of car owners.

## SEALED POWER "KROMEX" PISTON RINGS ARE ADVERTISED

**regularly in MECHANIX ILLUSTRATED because—**

The Sealed Power Corporation knows that it's good business to tell its story to an automotive-minded audience . . . to men who know their brands and insist on top ones.

The 1½ million men who read MI every month give Sealed Power an interested, active audience. More than 90% of them own their own cars—59% list cars and car up-keep as their chief interests. This motor-minded, brand-conscious market pays off in greater dealer profits. Make sure your customers know you always have "KromeX" Piston Rings available.

**MECHANIX ILLUSTRATED**

*The favorite magazine of motor-minded men*

A FAWCETT PUBLICATION

67 WEST 44th STREET • NEW YORK 36, N. Y.

# Johns-Manville announces an entirely new brake lining

**designed to outperform any other lining used in conventional brakes**

**Check these new features:**

**Fade-free**
not sensitive to temperature or moisture

**Trouble-free service**
precision molded, easy on drums

**Heavy duty**
long life with automatic transmissions

**Balanced friction**
metallic impregnated combination sets

**Power action**
'soft' pedal, sure straight-line stops

# NEW J-M *custom* 4-STAR SETS

## will increase the efficiency of any passenger-car brake system

Now—from the Johns-Manville Friction Materials Laboratory—comes a brand new concept in brake lining. It's the new J-M *Custom* 4-Star Sets—developed from new basic compositions and produced by a new manufacturing process. When used on conventional brake systems, including automatic transmission cars, these new sets will give long service, set a new standard in safe, power-action, straight-line stopping. They can be used on power brake systems, too.

These new Johns-Manville Custom 4-Star Sets bring to conventional brake systems, for the first time, a metallic-impregnated formulation of specially selected asbestos fibres. Precision molded under high compression, this tough, durable material will maintain its friction stability. Not sensitive to temperature or moisture conditions. Each set is engineered in combinations for proper friction balance in every make of car. They provide long, trouble-free service life, even under severe operating conditions.

• • •

Your local J-M Distributor carries *Custom* 4-Star Sets. For power systems, order the new PB Sets that are *Power Built* for power brakes. Ask him about these important developments in brake lining for the passenger car field, or write to Johns-Manville, Box 60, New York 16, N. Y.

JOHNS-MANVILLE JM PRODUCTS

**Johns-Manville** *asbestos* **BRAKE LININGS**

**TERRIFIC GOOD NEWS FOR STUDEBAKER DEALERS!**

# Gigantic alliance of Studebaker and Packard creates the

# WORLD'S 4TH LARGEST

## full-line producer of cars and trucks!

The tremendous Studebaker-Packard Corporation is now officially in business—with assets of $251,000,000.00—net worth of $170,000,000.00!

Studebaker dealers are sure to benefit right away from the huge new strength of Studebaker and Packard combined!

Studebaker and Packard together will be making automotive history month after month!

Studebaker...

*the franchise of big opportunity for foresighted dealers*

# FINISHING TOUCH TO A

# *Classy Display*

When you're looking for quality paint products, you can rely on the jobber who features the Arco line, and displays the Arco emblem (right side up, of course).

Handling Arco refinish products marks him as a man eager to serve you with the very finest . . . proud to offer Arco products for your *every* refinishing need, from spot putty to color machines. You can depend on these Arco products, and on the fine related lines he carries.

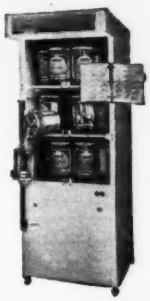
Look for the colorful Arco emblem on trucks and store fronts. It marks a reliable automotive jobber, handling top-quality refinishing products. Call him today.

ARCO PAINTS
*Quality... SINCE 1881*

**THE ARCO COMPANY** | **7301 Bessemer Avenue • Cleveland 27, Ohio**
**5898 Central Avenue • Los Angeles 1, Calif.**

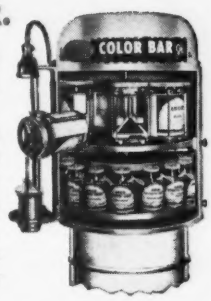
**QUALITY ARCO REFINISH PRODUCTS MADE BY THE ORIGINATORS OF COLOR MACHINE MERCHANDISING**

## COLOR BAR®



21 gals. of base colors. Designed for high volume refinish business. The "king" of all color machines . . . fits in space the size of household refrigerator, 29 inches square.

## COLOR BAR, JR.




8 gals. and 13 qts. of base colors. Built for the medium sized shop . . . equipped with practically all the features of the famous COLOR BAR.® The latest model in the Arco line, COLOR BAR, JR. offers high volume output. Mounted on drum or bench top.

## COLOR CADDY

4 gals. and 17 qts. of base colors. Ideal for the low or medium volume body shop where accurate matching and widest range of colors are essential. Excellent value . . . amazingly low investment with high profit possibilities.

# *Be a big winner!*

YOU are eligible for the coveted Brand Name Retailer-of-the-Year Plaque or one of four Certificates of Distinction to be awarded in your retailing field next Brand Names Day.

Win one of these important awards by promoting brand names all through 1954! Brand names mean business. Thousands—or millions—of dollars worth of national advertising, paid for by the manufacturers, pre-sell your customers and cut selling time. You get faster turnover, because known brands outsell unknowns by seven or eight to one in most categories.

Steady demand and repeat sales give you fewer markdowns. Because brand name manufacturers pre-test their products, and assume responsibility for them, you have fewer adjustment worries. Reputable brands add prestige to your store, and bring you advertising help that cuts your costs and adds to the effectiveness of your advertising.

These are the ways you win, this year, by promoting brand names. When you win a Brand Name Retailer-of-the-Year Award, your winnings increase! Exciting publicity in your local newspapers and trade papers brings you prestige among your customers and your suppliers, and adds to store traffic.

***Be a big winner!*** Send the coupon for your Brand Name Retailer-of-the-Year entry blank today! There's no cost, no obligation, no entry fee. And you get the idea-packed merchandising kit, "Brand Names Mean Business," free!

**Brand Names Foundation** INCORPORATED

37 West 57th Street, New York 19, N. Y.

Please send me an entry form for the 1954 Brand Name Retailer-of-the-Year competition, and a copy of the free kit, "Brand Names Mean Business."

Firm Name_____

Type of Firm_____

Executive_____

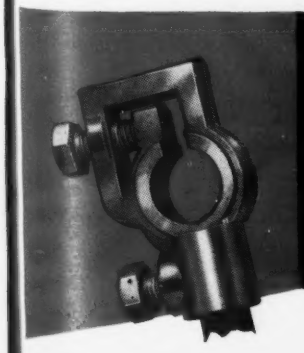
Title_____

Street_____

City_____ Zone____ State____

# No other cable unit will last as long as this

- **Long life... terminal connector will outlast the cable itself**
- **Non-corrosive alloy... easy on, easy off**
- **Improved design... can't freeze or lock on the battery**
- **Better electrical connections over long periods of service**



**SOLDERLESS TERMINAL CONNECTOR**

Make your next terminal connector replacement with a Jiffy! Unique construction and non-corrosive alloy make Jiffys easy to install and remove. Eliminates hammering and prying.

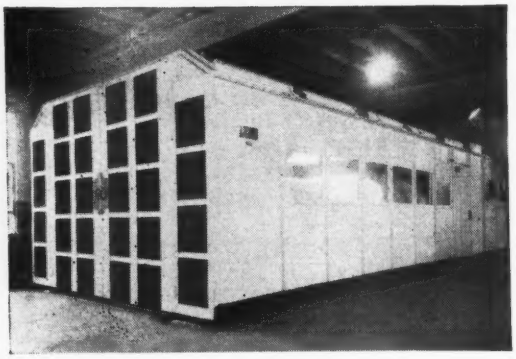
Only Jiffy offers this superior, preformed cable unit. Outlasts all others because . . . connector integrally cast on cable—can't break or loosen; non-corrosive alloy resists wear; designed for easy on and off to prevent wear on connector (and battery) from prying. No other like it! Insure customer satisfaction, save yourself time and cost—use Jiffy Cable Unit. Contact your jobber today or write direct for complete details.

**O. H. THOMAS COMPANY**

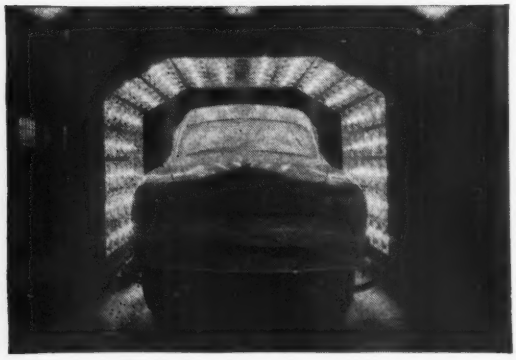
**Dept. B** **Williamsport, Penna.**

*Cooperson Bros., Camden, N.J. body shop have complete DeVilbiss facilities for factory-quality paint jobs.*

# Cooperson Bros. handle 500 jobs a month with DeVilbiss paint shop!



*DeVilbiss booth, with its observation windows, merchandises painting service. Scientific filters guard against dust.*



*DeVilbiss Traveling Infrared Oven speeds production at Cooperson Bros. Even synthetics dry in 30 minutes or less.*

Of the 650 to 700 repair tickets written monthly by Cooperson Bros., Camden, N.J. body shop, over 500 require partial or complete paint jobs. Complete refinish jobs account for 25% of paint shop volume.

To eliminate bottlenecks and keep their painting operation running fast and smooth, Cooperson Bros. rely on their DeVilbiss paint shop. Leon Cooperson, secretary-treasurer, says, "We have used DeVilbiss equipment for 30 years and we are continuing to use it. This speaks for itself."

To handle more volume and save space, Cooperson Bros. recently installed a new DeVilbiss Showroom Booth with Traveling Infrared Oven. Two DeVilbiss Booths which had been in continuous service for 18 years were replaced. DeVilbiss spray guns, air transformers, exhaust system, hose and accessories are integrated for peak efficiency on all jobs.

Get *your* full share of the profitable paint business with a modern DeVilbiss shop! Your DeVilbiss jobber will tailor facilities to fit your requirements – make you money with equipment that gives factory-quality finishes at the lowest possible cost. Give your DeVilbiss jobber a call today. There's no cost or obligation.

**THE DEVILBISS COMPANY**

**Toledo, Ohio**

Santa Clara, Calif. • Barrie, Ontario
London, England

*Branch Offices and Distributors in Principal Cities Throughout the United States, Canada and the World*

FOR BETTER SERVICE, BUY

**DEVILBISS**

# Calendar of Coming Events

### Dealers Conventions

**Oct. 17-18 — Georgia Automobile Dealers Assoc. Convention, General Oglethorpe Hotel, Savannah.**

**Oct. 17-19—Arizona Automobile Dealers Association, Westward Ho Hotel, Phoenix.**

**Oct. 17-19 — Tennessee Automotive Assoc. Convention, Peabody Hotel, Memphis.**

**Oct. 21-23—New Mexico Automobile Show, Albuquerque.**

**Oct. 23-25 — Arkansas Automobile Dealers Assoc. Convention, Hotel Marion, Little Rock.**

**Oct. 24-26—Florida Automobile Dealers Assoc. Convention, Hotel George Washington, Jacksonville.**

**Oct. 26 — Connecticut Automotive Trade Assoc. Convention, Hartford.**

**Oct. 31-Nov. 1—10th Annual Convention, Texas Independent Automobile Dealers Association, Hilton Hotel, Fort Worth.**

**Nov. 7-9 — Ohio Automobile Dealers Assoc. Convention, Hotel Mayflower, Akron.**

**Nov. 7-9—Automotive Trade Association of Virginia, John Marshall Hotel, Richmond.**

**Nov. 7-9—Kentucky Automobile Dealers Assoc. Convention, Kentucky Hotel, Louisville.**

**Nov. 14-16—National Used Car Dealers Association Convention, Empress Hotel, Miami Beach, Fla.**

**Nov. 18-19—Idaho Automobile Dealers Assn. Convention, Boise Hotel, Boise.**

**Nov. 20 — Utah Automobile Dealers Assn. Convention, Newhouse Hotel, Salt Lake City.**

**Dec. 2-4—Montana Automobile Dealers Association, Florence Hotel, Missoula, Montana.**

**Dec. 7—Milwaukee County Automobile Dealers Assn. Convention, Milwaukee Athletic Club, Milwaukee.**

**Jan. 29-Feb. 2, 1955—NADA annual Convention, Hotel Conrad Hilton, Chicago.**

### Automobile Shows

**Oct. 9-24—Southwestern Automobile Show, Texas State Fair, Dallas.**

**Jan. 8-16, 1955—Chicago Auto Show, International Amphitheater, Chicago.**

**Jan. 8-16, 1955—Washington, D. C. Auto Show, Washington.**

**Jan. 21-30, 1955—Seattle Automobile Show, Seattle Armory, Seattle.**

**Jan. 21-30, 1955—Los Angeles Automobile Show, Pan Pacific Auditorium, Los Angeles.**

**Jan. 22-30 — St. Louis Automobile Show, Kiel Auditorium, St. Louis.**

**Jan. 29-31, 1955 — Tri-State Auto Show, Evansville Automobile Dealers Assn., Evansville Armory, Evansville, Ind.**

**Jan. 29-Feb. 6, 1955—Detroit Auto Show, Michigan State Fair Grounds, Detroit.**

**Feb. 5-12, 1955 — Milwaukee Auto Show, Milwaukee Auditorium, Milwaukee.**

**Feb. 5-12—Des Moines Automobile Show, Veterans Memorial Auditorium, Des Moines.**

**Feb. 8-13, 1955—Omaha Auto Show, Omaha Auditorium, Omaha.**

**Feb. 12-19, 1955—San Francisco Auto Show, Pan Pacific Auditorium, San Francisco.**

### General

**Oct. 25-27—Nat'l Assoc. of Independent Tire Dealers, Sherman Hotel, Chicago.**

**Dec. 6-7—National Standard Parts Assoc., Hotel Sherman, Chicago.**

**Dec. 8-10—Automotive Service Industries Show, Navy Pier, Chicago.**

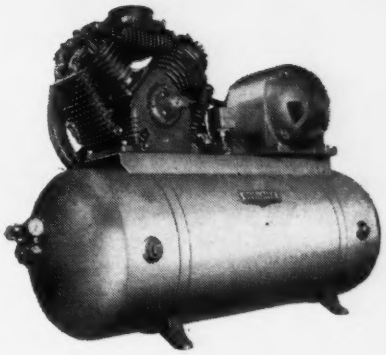
## Ex Jaycee Head Joins NADA

Mr. Horace E. Henderson, former national president of the U. S. Junior Chamber of Commerce, has joined the staff of the National Automobile Dealers Association.

In making the announcement, Rear Admiral Frederick J. Bell, NADA executive vice president, said Mr. Henderson will act in a liaison capacity between the national association and the hundreds of local and state dealer groups throughout America. He will also spearhead NADA's movement in the interest of younger automobile dealers.

"For some time," Admiral Bell said, "we of NADA have regarded it as essential that the younger men in our industry—men whose business experience has not included the various cycles of economic conditions—receive special aid and encouragement in the field of general management. Mr. Henderson possesses the background and qualifications necessary to deal ably with this important segment of tomorrow's industrial leaders."

Mr. Henderson has an impressive record of accomplishment in civic affairs in his home state of Virginia and has gained both national and international recognition as one of the outstanding young men of the nation.

**New DeVilbiss Air Compressor pays for itself**

It's true. Many times a new DeVilbiss Air Compressor will actually pay for itself *out of power savings alone!* DeVilbiss Air Compressors give you up to 22.6% more air per power dollar. You gain, too, in lower maintenance and depreciation costs. If you have a compressed air problem, contact your local DeVilbiss jobber today.

Every DeVilbiss Air Compressor, from ½ to 15 hp., offers you: A Dependable DeVilbiss Compressor Unit, Check Valve Manifold, Automatic Pressure Switch, Quality Electric Motor or Gas Engine, A.S.M.E. Tank, Outlet Manifold and Quiet Efficiency V-belt Drive.

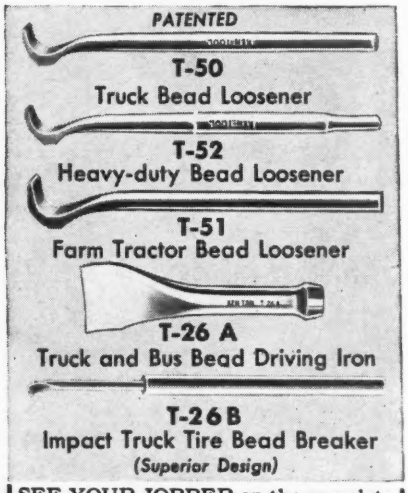
**THE DEVILBISS COMPANY**
**Toledo, Ohio**

Santa Clara, Calif. • Barrie, Ontario • London, England
Branch Offices in Principal Cities

FOR BETTER SERVICE, BUY
**DEVILBISS**

**Change Truck Tires**
***EASIER* with**
*JOB-DESIGNED*
**KEN-TOOL**
**QUALITY BEAD LOOSENERS**

Free frozen beads quickly with exclusive Ken-Tool Bead Looseners. They provide greater leverage . . . loosen the most stubborn truck tire beads quickly, easily.




SEE YOUR JOBBER on the complete line of *Job-Designed* Ken-Tools. Forged by the largest exclusive manufacturer of top-quality Tire-changing Tools and Equipment. THE KEN-TOOL MFG. CO., AKRON 5, OHIO.

*JOB-DESIGNED*
**KEN-TOOLS**
TIRE-CHANGING TOOLS KNOWN, USED AROUND THE WORLD

**DON'T FORGET**
*"The Lining it takes for Power Brakes"*
**SOUTHERN FIBER BLOCK**
**SOUTHERN**
FRICTION MATERIALS CO. CHARLOTTE 1, N.C.



**Buy Bonds**


## Window Regulators .

Continued from Page 135

panel and slide the regulator arm off the track. Lower and remove the assembly through the access hole in the floor. Remove the bracket, with the relay attached, and disconnect the motor to relay wires.

Clamp the assembly in a vise and unload the spring. Remove the two attaching nuts and washers which hold the motor to the regulator assembly. Remove the motor and rubber drive coupling. Note: Motor and drive coupling may be removed without removing the window regulator assembly.

Remove the three cap screws and lockwashers holding the drive assembly to the window regulator mechanism. To install the rear door regulator mechanism follow the instruction procedure given for type A.

### Removal of the Quarter Window Regulator

Remove the rear seat and seat back and quarter trim panel. Take out the two screws that secure the quarter window stop to the quarter window regulator panel, and remove the stop. Lower the glass as far as possible, and remove the two spring type retainers that secure the glass channel rollers to the window regulator arms. Remove the rollers from the arms. The glass is now free and can be lowered to the bottom of the quarter panel. Remove the four cap screws that secure the regulator assembly to the quarter window regulator panel and disconnect all wires leading from the motor to the relay and remove the regulator assembly. To install, position the regulator assembly inside the quarter panel and install the four cap screws that secure the regulator assembly to the quarter window regulator panel. Do not tighten the cap screws at this time.

Raise the quarter window and attach the arms to the rollers, connect all wiring and raise window for proper adjustment.


**OVERSIZE AND STANDARD**
**REAR WHEEL STUDS**
*for all Trucks*
ORDER FROM YOUR JOBBER

**CHAMP-ITEMS, Inc.**
6191 Maple Ave.
St. Louis 14, Mo.
SEND FOR CATALOG



**BOWERS BATTERIES**
*Always Better*
BOWERS BATTERY & SPARK PLUG CO., READING, PA.



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*See this ad in a 1000 places*
**Lasco**
**MOUNTAIN MASTER**
**BRAKE LINING**
*America's Finest!*

From Hollywood to Manhattan—Demanded by Fine Car, Bus and Heavy Transportation Owners. Get the BEST for a Few Cents More. Cut Costs—Prevent Accidents—Save Lives! Dealer inquiries are invited. Write or wire.
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• RESISTS BURNS • STOPS SHOCK • WON'T FADE •
• PROVIDES AIR-CONDITIONED COMFORT •
• REPELS STAINS • PREVENTS SCUFFS •
**THE SEAT COVER MATERIAL THAT HAS EVERYTHING**
GENUINE HIGH TENSILE
**Nycar®**
*beautywear automotive fabric*
developed and made only by
**ELLENBORO MILLS, INC.**
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**It Pays To Buy The Best**

# Get your heap BIG bonus

## with new WAUSAU "MONOTIZED*" Oil-savr Rings!

### *Install 'um as a single unit!!



MONOTIZED is Wausau's patented Oil-savr feature that makes a multiple-piece ring a one-piece ring! The three ring components are bonded together with a special adhesive that dissolves during the first engine run, permitting the rings to separate and form a perfect contact with the cylinder walls.

Installation is easier, faster and error-proof!

*HEAP BIG BONUS* We believe it's the finest introductory plan ever offered . . . and we know you'll agree when you get all the facts for yourself. It's *the* truly outstanding, top-notch, profit-making bonus offer on piston rings!

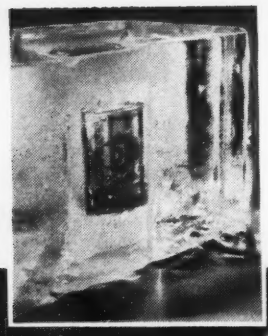
*HEAP BIG BONUS* It's the kind of bonus offer that puts money in your pocket all the way down the line . . . from ring purchase to installation. No other ring manufacturer offers such a lucrative plan for *big* profits.

*HEAP BIG BONUS* It includes Wausau's famous Bonded Warranty protection for you plus a brand new consumer promotion campaign. The only one of its kind in the piston ring industry, Wausau's Bonded Warranty stands behind every installation of Wausau Piston Ring Sets . . . it protects you . . . it protects your customers.

*HEAP BIG BONUS* It's an opportunity you can't afford to miss. So don't delay. While it's fresh in your mind, write Wausau today for complete information. Prove to yourself this introductory offer is the most profitable one you've ever had!

# WAUSAU

**WAUSAU MOTOR PARTS COMPANY**
**Wausau, Wisconsin**



**Frozen for 24 hours**

in a block of ice (see inset), D-X *Special* Motor Oil still flows so fast the can empties in seconds. That's the kind of protection your cutomers will go out of their way for—and buy!

# Why the "WEATHER-PROOFED" motor oil can spark-up your service business

***D-X Special Motor Oil*** will sell this fall and winter like no other oil you've ever stocked!

And once you hitch your wagon to this star, you'll find yourself selling more Fall change-overs. The customer who buys D-X *Special* Motor Oil is the customer who really cares about his car. He wants D-X *Special's* faster starts, better gas mileage, stepped-up protection against acid and friction. Most important to you—he wants your expert service.

So why don't you get "Weather-Proofed" D-X *Special* Motor Oil to attract this quality customer? It pays you a better profit. It reduces your inventory. It's sold on our absolute money-back guarantee. Available in two grades: 5w/20 and 10w/30.

Call your D-X Distributor or D-X Salesman to order "Weather-Proofed" D-X *Special*, or write us at Box 381, Tulsa, Oklahoma.

D-X

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**FOR INSTALLING VALVE SEAT RINGS**

**The Biggest Seller**

**THE FIRST** . . . and still the MOST POPULAR, MOST PRACTICAL, SIMPLEST, MOST UNIVERSAL tool of its kind made.

**EVERLASTING** . . . the first tools made over 25 years ago are still in service.

**K. O. LEE CO.**

ABERDEEN, SOUTH DAKOTA

*If it's made by* **Lee** *it's a* **"Knock-Out"**

# NEW TUBELESS TIRE TESTER

**A must for finding leaks from punctures, seals, valves, wheel rivets**

Wheel rotates freely to find smallest leaks in tire, seals, valve, wheel rivets. Available with or without reel for testing tubes also. Bishman #855T.

Tubeless Tire conversion kit for any #855 Tube Tester—#855TA.

## *BEAD LOOSENER and TIRE REMOVER*

**Truck-Tractor-Aircraft**

Fits all wheels and rims 10" to 40". Cam and lever action exerts 3500 lbs. pressure on bead. Removes tires on 2 pc. and 3 pc. taper rims. Low Cost —High Speed—Versatile #922.

**Bishman** MANUFACTURING COMPANY

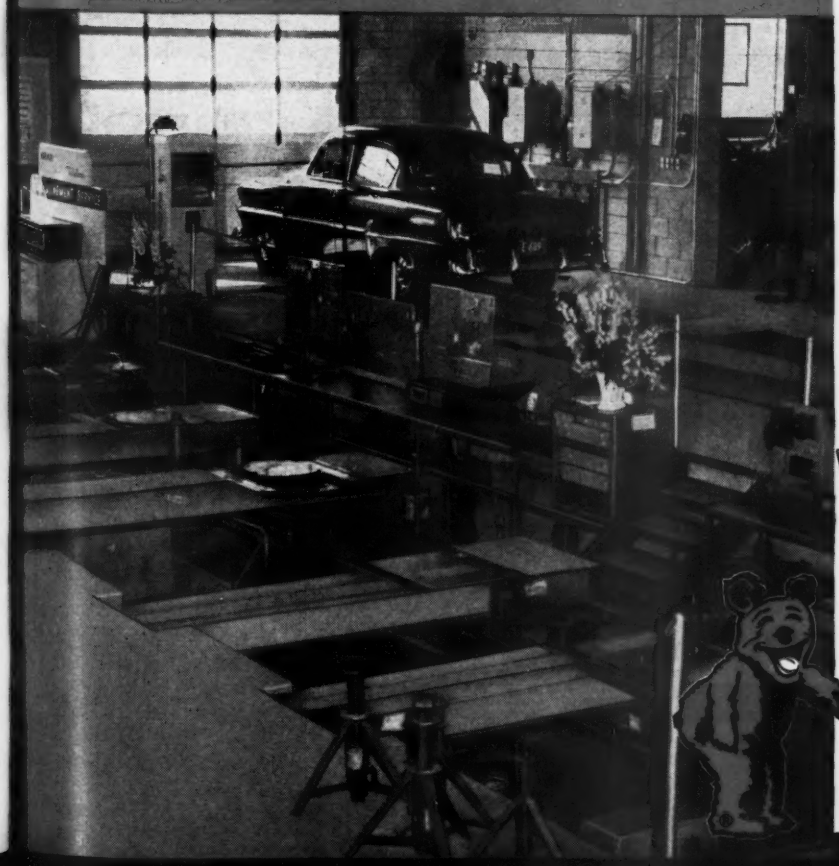
Osseo 26, Minnesota

Ask your jobber about complete line and low prices or write direct.

# EXTRA PROFITS from "BEAR" EQUIPMENT

**moved us from here...**

**to here!**



## ...and this is the equipment that did it for us!

From village smithy to a big-time Safety-Chek station—that's the success story of W. C. Krueger & Son, Thiensville, Wis. And, according to Bill and William C. Krueger, "Bear" Equipment helped them achieve it. Shown here are pictures of the grand opening, when 4,000 people came to admire a complete line-up of "Bear" Equipment. The Kruegers prove once again that, the More "Bear" YOU HAVE, the MORE MONEY YOU MAKE!

*Extra Heavy-Duty Service 9000-830

*Super Frame and Alinement Service 197-84 with Telaliner

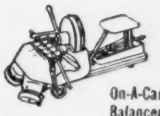
*Passenger Car Balancer 330

*Super Heavy-Duty Balancer 3300

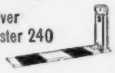
*"Balantru" Service 736

How about YOUR Success Story? Start it today, by sending for your copy of the "Bear" Catalog.

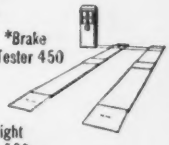
**Write Bear Mfg. Co., Dept. M-1, Rock Island, Ill.**



On-A-Car Balancer



*Drive-Over Alinement Tester 240



*Brake Tester 450

Crankshaft Balancer

*Headlight Tester 560

*W. C. Krueger & Son have this "Bear" equipment

**"BEAR"®**

**SAFETY SERVICE**

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R-752

#8104 Valve Fishing Tool—Holds valve while inflating—can't slip back thru rim hole

#2688 Valve Core Screwdriver Tool

#3263 Valve Repair Tool—repair threads, deflate, remove and apply cores

**Get your share of tire repairs . . . and get 'em done faster and better with *Schrader Valve Service Tools.***

Schrader

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See our ad on page 97

**A. SCHRADER'S SON** **BROOKLYN 38, N. Y.**

*Division of Scovill Manufacturing Company, Incorporated*

# AUTO TESTING SIMPLIFIED!

## PRACTICAL REMOTE STARTER SWITCH

### TESTS CARS 101 WAYS

A HANDY PIECE OF EQUIPMENT WHICH **ELIMINATES THE NEED OF A SECOND MAN AT THE STARTER!**

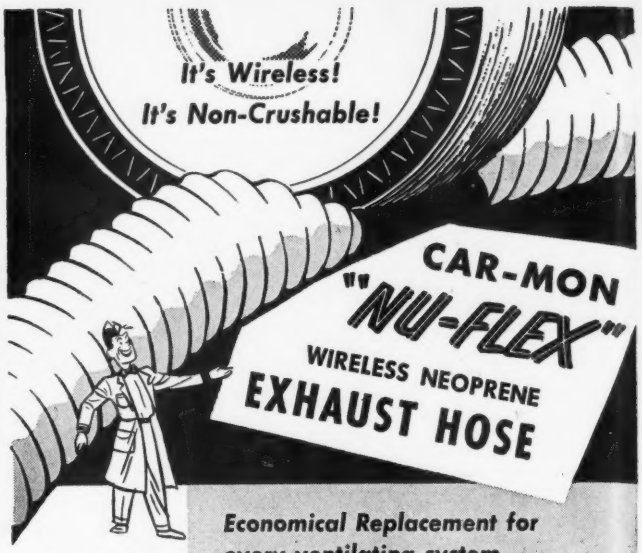
Att: Jobbers
Distributors
Attractive Discounts Offered

LIST PRICE **$2.75**

Attaching the Practical Remote Starter Switch to the starter solenoid allows the starter to be used for rotating the engine for all sorts of tests and checks from any position around or under car. It can also be used for any application which calls for exact location of some rotating part of the engine. The Practical Remote Starter Switch is complete as illustrated with rugged, insulated covered clips and five feet of cable.

TESTING STARTER RELAYS • COMPRESSION TESTS • HORNS • STOP LIGHTS • HEADLIGHTS • ADJUSTING VALVES AND BREAKER POINTS • etc., etc.

PRACTICAL DEVICES INC. • 103 Lafayette St. N. Y. 13, N. Y

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The replacement exhaust hose made for extra durability — even under the most rugged use! Wireless design bends freely, yields *without clogging* when rolled over . . . regains shape in seconds. Rough, tough, Neoprene construction will not stiffen or deteriorate from heat, cold, oil or constant use. Depend on "Nu-Flex" for long, safe, *dependable* service!

*LEAKPROOF! RUSTPROOF! CORROSION-PROOF!*

Contact your jobber today — or write direct for full details.

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4554 BROADWAY, CHICAGO 40, ILL.

Designers and manufacturers of All Types of CARBON MONOXIDE VENTILATING EQUIPMENT Under Floor, Overhead Hanging and Disappearing.

Spray day is pay day with the

## Black "HOLLOW AIR" gun

For original "Factory Finish" with synthetic enamel use the Black "HOLLOW AIR" spray gun. The patented atomizer head gives a finer spray over the whole pattern. Uniform wetness and better coverage . . . no spotting at edges . . . no runs, sagging or orange peel.

The Black "HOLLOW AIR" spray gun is a sure way to increase paint job profits and assure customer satisfaction. Write for catalogue of the complete BLACK line of paint spray equipment, booths, compressors and exhaust fans.

BLACK

**BLACK MANUFACTURING CO.**
Second and Warren Sts. • Harrison, N. J.

CAR LIFE MAGAZINE

# Seal Topics

THE OFFICIAL HOUSE ORGAN OF CAR LIFE TESTING LABORATORIES INC.
814 H STREET N.W., WASHINGTON 1, D.C.

# NEW TRACTION SAFETY UNIT WINS AUTOMOTIVE SEAL OF MERIT

After stringent tests, Car Life Laboratories has awarded its Automotive Seal of Merit to TRACTION MASTER, a device for improving wheel traction in accelerating and braking.

Traction Master was developed by two youthful California Sport-car racing drivers, Chuck Tatum and Andy Botto.

A combination of Hotchkiss drive and torque tube drive, Traction Master is a simple bar which is installed on the forward section of the right rear spring. Traction Master works in this way: The rear springs of an automobile are the only parts holding the rear end under the car and often cannot cope with the torque surge from the drive line. When power is applied to move the car forward, the rear end tends to rotate around its own axis. The forward half of the spring bends in an arc as the right rear wheel tries to travel upward and forward. This action causes the right rear wheel to spin and results in loss of power and increased tire wear.

The exact opposite occurs when the brakes are applied. The rear end is forced downward around its own axis causing the rear half of the rear spring to bend in an upward arc. The spring acts as a lever to pry the weight of the car upward and forward in what is known as weight transfer, and the rear wheels lift off the road, transferring most of the braking power to the front wheel brakes.

Traction Master prevents this flexibility in the spring and keeps the rear wheels on the road. This results in several performance advantages: elimination of drive-line snap, ability to stop the car quicker, stabilization during blow-outs, rough roads, increase in brake lining and spring life, greater tire mileage, longer U-joint, axle, drive-line and shock absorber life.

The following chart, prepared by the Auto Master Corporation, shows braking comparison at various speeds with and without installation of Traction Master.

Chuck Tatum, Traction Master co-inventor, is photographed holding one of the units.

**Stopping Distance After Brakes Are Applied**

| Miles per Hour | WITHOUT Traction Master | WITH Traction Master | Number of Feet Braking Improvement |
|---|---|---|---|
| 10 | 5.0 | 4.4 | 0.6 |
| 20 | 20.0 | 17.6 | 2.4 |
| 30 | 45.0 | 39.0 | 6.0 |
| 40 | 80.0 | 68.0 | 12.0 |
| 50 | 125.0 | 93.0 | 32.0 |
| 60 | 180.0 | 112.5 | 67.5 |

Traction Master is manufactured by the Auto Master Corporation at 165 Eleventh St., San Francisco 3, Calif.

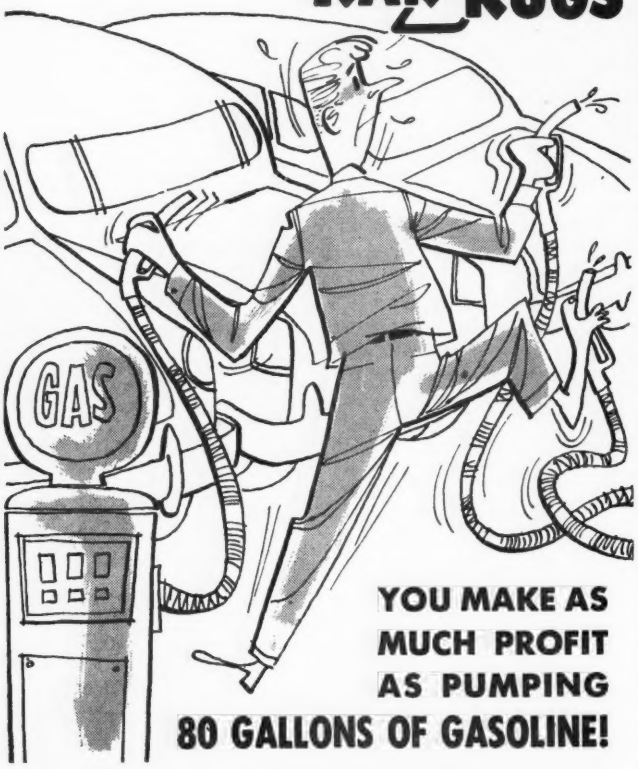
## DIRECTORY OF SEAL HOLDERS

The Bardahl Oil Company of 3635 Natural Bridge, St. Louis, Mo. and Bardahl Mfg. Corp. of Seattle, Wash., has been added to the list of Seal Holders. Branches in Indianapolis, Kansas City, Mo., Columbus, Ga., Hyde Park, Mass.

## THE SEAL THAT SELLS!

**THE AUTOMOTIVE SEAL** is awarded to Car Life advertised products that have passed stringent tests for quality, performance and safety. Such products are backed with Car Life's unconditional guarantee of replacement or refund. Consumers know that a Seal product can be bought with confidence.

# EVERY TIME YOU SELL A SET OF .. *Rubbermaid* KAR-RUGS




**YOU MAKE AS MUCH PROFIT AS PUMPING 80 GALLONS OF GASOLINE!**

# *Save that WINDSHIELD*

Remove Surface Scratches the New "SOMACA" way . . .

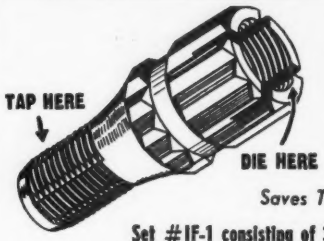
**No. SM-570-PSP PORTABLE SCRATCH POLISHER**

Designed to meet the demand for a low-priced, light-weight portable tool capable of removing light surface scratches from automobile windshields . . . also can be used to polish out rubs, fine lines, stains, and discolorations on mirrors or glass of any kind.

Weighs only 7 lbs. . . . Perfect balance and properly placed handles makes it possible to work with the windshield right in the car, thus lowering the labor cost and many times the cost of replacing an expensive curved windshield.

**No. SM-570-PSP complete as illustrated with 1 lb. can of polishing powder.** *Only* **$59.50**

**SOMMER & MACA** *Glass Machinery Co.*
Automotive Department
3624 SOUTH OAKLEY AVENUE CHICAGO 9, ILLINOIS




Combination Tap & Die

# THREAD CHASERS

Re-Threads DAMAGED or CROSS-THREADED fittings FAST on CARBURETORS, FUEL PUMPS, BRAKE, GAS AND OIL LINES.

*Saves Time and Cost of New Fittings*

**Set #IF-1 consisting of 3 THREAD CHASERS** to service all popular cars and trucks. Neatly boxed. **$4.50**

Other type CHASERS available to service AIR BRAKE, DIESEL, MARINE, OIL BURNER and REFRIGERATION fittings. See your tool supplier. If not available write to:

**SMART-TOOLS, INC.** Dept. "A," 62 Eagle St., Prov. 9, R. I.


## Classified Advertisements

WANTED: Distributor and Sales Representative for a quality line of Paint and Oil Strainers. Write for details to PANOCO, 166 Henry St., Stamford, Conn.

WANTED—Aggressive Manufacturer's Representatives handling specialty lines. Calling on specialty distributors, major fleet operators, contractors, and large users of motorized equipment. This is an important development now definitely proven that provides great savings in operation and maintenance. Actually pays for itself in short time. Sustaining sales follow installation. For information address Box 26, Motor Age, 5601 Chestnut St., Philadelphia 39, Pa.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# CHILTON'S MOTOR AGE FLAT RATE *and* SERVICE MANUAL

*while the supply lasts*

- Labor Charges and Service Procedures on the new cars
- The most complete and efficient edition Chilton has ever issued

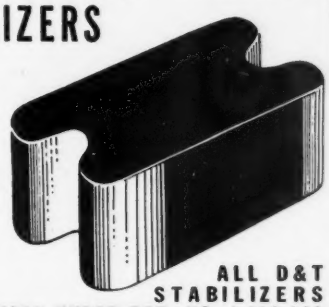
12 issues of MOTOR AGE and the big 1838 page manual cost only $17.00

**AUTOMOTIVE HEADQUARTERS**
CHILTON COMPANY
*Philadelphia 39, Pa.*

D&T ENGINEERED

*. . . For A Smoother Ride . . . For More Profits*

SELL D&T COIL SPRING STABILIZERS



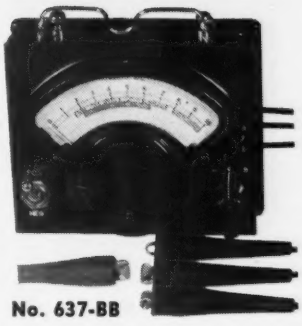
MOLDED OF HIGH QUALITY RUBBER

ALL D&T STABILIZERS ARE LICENSED UNDER PAT. NO. 2,230,340

TURNER *Manufacturing Co.*
KOKOMO, INDIANA, U.S.A.

SEE YOUR JOBBER OR WRITE FOR LITERATURE

GET IT FROM YOUR JOBBER



No. 637-BB

Test 6v and 12v REGULATORS *Fast!* WITH LOW COST HOYT TESTERS

VOLTAGE REGULATOR TESTER: HOYT No. 637-BB for precision tests on all cars and light trucks with either 6 or 12-volt systems. Long scale shows 0-9 and 0-18 volts. Toggle-type reversing switch. Four insulated leads. Fast, accurate, easy-to-read. Fixed Resistor No. 633 is available for replacing battery during regulator test.

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**Send for FREE copy of "*METERS and MOTORS*" . . . valuable, practical suggestions for testing all automotive electrical systems.**

**BURTON-ROGERS CO.**
*Sole Selling Agents:* Hoyt Electrical Instrument Works
42 CARLETON STREET, CAMBRIDGE 42, MASS.

DO IT BETTER WITH RIMAC

**Hexset**

TAPS AND DIES!

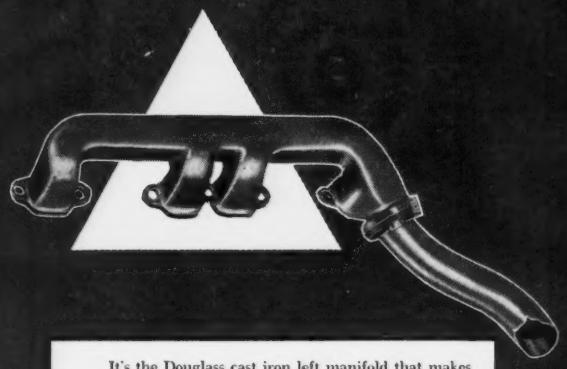
For greater speed and convenience on new thread-cutting or rethreading jobs, pick your tools from the mechanic's pride — a Rimac Hexset. Taps, dies, hex die stock and guides, and other accessories are all designed for quick, accurate results in confined quarters. Fitted in handsome, permanent, solid wood chests.

Also available—special rethreaders for axle shafts, armature shafts or inverted flared fittings—threadfile for restoring mashed threads of all sizes.

*Ask your jobber or write for literature.*

RINCK-McILWAINE, INC.
16 HUDSON ST. • NEW YORK 13, N. Y.

THE *Douglass* DIFFERENCE



It's the Douglass cast iron left manifold that makes the *difference* in the new Ford and Mercury dual exhaust systems. These dual muffler sets eliminate the back pressures of original equipment, increase the horsepower and improve the performance. The Douglass engineering which made Ford and Mercury run better also gives top efficiency to Buick, Chevrolet, Lincoln, Dodge, Plymouth, Studebaker, Oldsmobile and the other great American automobiles. ***For further information write to factory***

DOUGLASS MUFFLER MFG. CO.
1916 West Valley Boulevard
Alhambra, California

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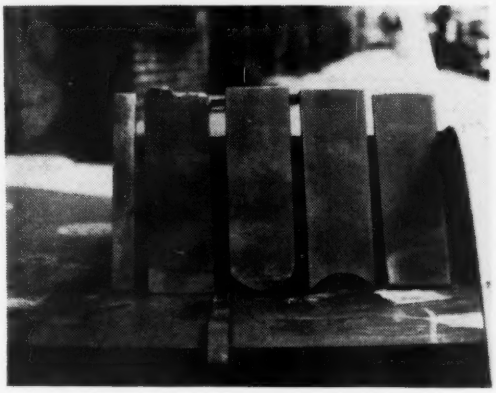
## Vulcanized Fibre Caulking Tools

## SAVE TIME—MAKE MORE MONEY ON MINOR BODY REPAIRS



Complete set of tools illustrated, showing 5 pieces and contours that can be shaped on grind wheels to fit specific needs.

Taking dimple without damaging paint in hood.

Forcing a stubborn wing nut without damage to it or bolt.

*Vulcanized Fibre Caulking Tools* save time and money—make body repairs without damaging paint.

Something new and different—something you need in your every-day work—*something that will make money for you!*

### *"They Seem To LAST FOREVER" Says Satisfied User*

Satisfied users are amazed at the way these tools stand up in daily use. They do not mushroom or split. They are ready to use whenever you need them—and to do the job you need to do.

These tools are also used in mechanical operations . . . to loosen stubborn nuts . . . to drive out gear chains . . . and many other operations that need force, without shock.

They improve work . . . they cut costs . . . they make more money for you.

**Only $7.50 per set of 5 pieces!**

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Company Name _____

Company Address (Street & No.) _____ City _____ Zone _____ State _____

My Name _____ Title _____

# The Last Laugh

Wife: "You seem disappointed with your parcel."
Husband: "Yes. I answered an advertisement for a device to keep down gas bills and the firm sent me a paperweight."

Policeman: "How did you knock him down?"
Motorist: "I didn't. I pulled up to let him go across and he fainted."

**"Darling, let's pull over and park."**
**"Well, parking is okay. But there's just one thing I want to tell you before you go any further . . . Don't go any further."**

"Yes, this is the game warden. What can I do for you?"
"Thank goodness I have the right person at last. I'm giving a birthday party and wondered what games would be good for the children."

**"I accidentally painted us in. Can you think of something for us to do while it dries?"**

***Reporter: "And in what state were you born, Senator?"***
***Senator: "Unless my recollection fails me, in a state of ignorance."***
***Reporter (scribbling): "Yes, to be sure; and how long have you lived there?"***

Lawyer: "What kind of car was the defendent driving?
Witness: "MG"
Lawyer: "What kind of truck did he hit?"
Witness: "GMC."
Lawyer: "What kind of shape were the vehicles in after the accident?"
Witness: "MGMC."

**"This is daddy's den," said the boss' little daughter. "Does your daddy have a den?"**
**"No, he just growls all over the house."**

***Chairman: "You say you must leave the board meeting early?"***
***Member: "Yes, my mother-in-law is arriving on the four o'clock broom."***

Father: Son, it's time for you to take a wife.
Wild Son: Whose, father?

***Landlord: "I have come to collect the rent!"***
***Tenant: "I just can't pay you this week."***
***Landlord: "You said that last week, the week before, and the week before that."***
***Tenant: "Yes, I know, and didn't I keep my word?"***

Brake Specialist: "How can you sell me a bottle of hair tonic when you have no hair yourself?"
Slick Headed Barber: "Cool down, buster. There aint a thing wrong with that. I know a man who sells brassieres."

How to make a female nudist mad: Look her straight in the eye.

**"Okay, Okay—we'll see what we can do about knocking a few bucks off of the estimate."**

There's something feminine about a tree. It does a strip tease in the Fall, goes with bare limbs all Winter, gets a new outfit every Spring and lives off the saps all Summer.

***Customer: "Have you any good after shave lotion?"***
***Clerk: "Yes, here's a little number that drives the girls crazy. It smells like a new car."***

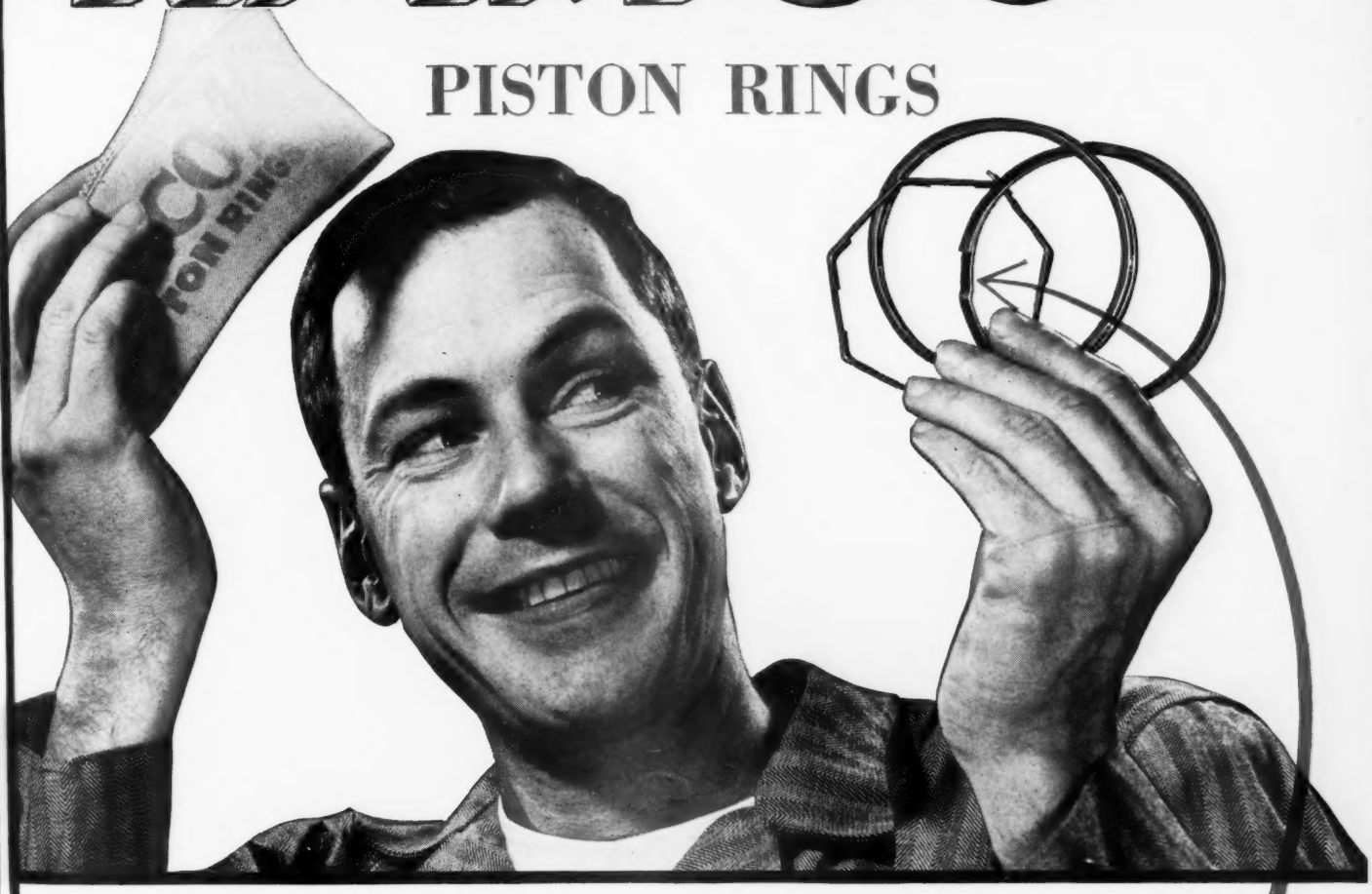
"I had to run into a fence to avoid a cow standing in the road," the motorist explained to the judge.
"Was it a Jersey cow?" he asked.
"I wouldn't know,' the motorist replied. "I didn't see her license plate."

**New Groom: "What are you thinking about, darling?"**
**New Bride: "The same thing you are, dear."**
**New Groom: "Good. I'll race you to the refrigerator."**

my hat's off to

# RAMCO

## PISTON RINGS




## s *EXTRA* ENGINEERING like NO-GAP SPIRO SEAL that gives you *IMMEDIATE SEATING ...IMMEDIATE OIL CONTROL*

ediate seating and oil control *without* increasing engine drag crificing cylinder and ring life! That is the kind of performance get with Ramco 10-Up regular and chrome plated ring sets. the reasons? You'll find them in Extra Engineering features hese two Ramco exclusives:

DOUBLE-LIFE PRINCIPLE: Makes possible quick seating *without itial inner-ring pressure being exerted on steel or chrome plated segments.*

AP SPIRO-SEAL: While seating without inner-ring pressure, this seg- meters oil to the cylinder wall with the amount *automatically regulated by gree of cylinder taper or wear!*

her, Double-Life and Spiro-Seal give you an unbeatable com- ion for immediate seating, immediate oil control and long life. Ask your Ramco Jobber for full details.

**NO GAP SPIRO-SEAL** is an unduplicated origination of Ramco engineering. This continuous steel ring is a part of every Ramco 10-Up Oil Ring combination, regular or chrome plated.

# "Give your customers a good brake"

*The only brake linings approved by the Pittsburgh Testing Laboratories.*

Play it safe—don't gamble with your customers' lives. Thermoid "Custom-Built" Brake Linings are custom-built for modern cars with power brakes and automatic transmissions. Always install genuine Thermoid "CB" Sets—the safest thing on wheels.

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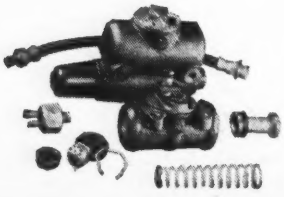

Thermoid's complete line of Hydraulic Brake Parts are precision engineered to the same industry-leading standards as Thermoid Brake Linings.

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the standard of precision processing in brake lining, brake blocks, hydraulic fluid, cylinder assemblies, hydraulic brake parts.